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of
GRADE WORK

(SERIES F)

EDITED BY
SIDNEY MARSDEN FUERST

ASSOCIATES
JAMES A. O'DONNELL MARIE L. BAYER
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Vol. VII. March 1905 No. 1

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Published March, June, October, December. Subscriptions may begin with any number. The subscription price is One Dollar for four successive numbers. Single Copies 35 cents.

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New York Teachers' Monographs

PLANS AND DETAILS OF GRADE WORK

MARCH 1905

Methods and Results.

By District Superintendent John Dwyer.

THE present decade has been a period of unusual unrest in the educational world. It has been a time of experiments and of progress. It has seen a wondrous development in summer school courses and in schools of pedagogy. Teachers' associations, normal schools and universities have vied with one another to provide professional courses for the teacher. Pamphlets, periodicals and books on educational topics litter the pedagogical pathway "thick as autumnal leaves that strow the brooks in Vallombrosa." This great activity has no doubt done much to improve the work of the teacher because increased activity on the teacher's part, means added interest on the part of the pupils; on the other hand, this movement is in part responsible for much superficial work in teaching.

The teacher is often induced to take courses in certain subjects because certificates showing that those courses have been completed receive due credit in examinations for eligible lists. The course is taken not because of any interest the teacher has in the work other than it counts so much in examination. The instructors giving those professional courses lecture largely from the theoretical standpoint—they talk on those subjects apart from the life in our city public schools. The theories taught by those novices in public school life to those attending lectures for the purpose of receiving counts in examination, cannot be productive of the best results. It is evident to the casual observer of matters educational that many of those young teachers possess a vast amount of undigested pedagogical knowledge and in certain cases much that may be indigestible. It may do for examinations, even though it cannot be applied with success in class work.

It is very unfortunate indeed that lack of success on the part of those who take those professional courses is looked upon by many of our brethren as excellent proof of the worthlessness of this kind of preparation for school work.

The failures in law, medicine and the other professions are not charged to the professional schools; they are charged rather to the individual. A diploma from the law school does not insure that its holder will be a successful lawyer; neither can we always expect that a diploma from a standard school of pedagogy will insure success to the holder. Some of the best work I have ever seen done in the classroom, has been done by teachers who never took a course in professional training, and some of the worst work I have seen, has been done by those having had such training.

I do not wish to imply by these statements that the great desideratum is experience in the classroom and that professional knowledge is worthless. I believe that both are essential to effective teaching. To the teacher who is intelligent, faithful, energetic and is possessed of a goodly amount of common sense, years of experience bring to her a thorough knowledge of her work both as to the subject matter and the methods of presenting it. She "learns to do by doing."

To the teacher who is a mere time server, years of experience bring to her but little save that it makes her more mechanical and worthless as the years go by. She does not "learn to do by doing."

Certain educators tell us that we study too much of principles and methods of education and too little of the subject matter. At the risk of being considered unorthodox, I must say that I consider a thorough study of the subject matter to be presented is of far greater importance to the teacher than the study of psychology, methods and principles of education; although a practical knowledge of the methods and principles of education is essential to good teaching. At the present time enough of this professional knowledge is of the ornamental kind to bring discredit upon the study of pedagogy; for all foolish methods pursued by its devotees and all weaknesses shown by them in teaching are charged to this subject.

Experience and excellent methods are of little avail only so far as they are productive of good results. It is possible that a teacher may be credited with both of these essentials and still be a failure. She may have these and yet lack in energy, in force of character, in fidelity to duty, in sympathy and in thoroughness in preparation. So many factors are conducive to success, it is not wise to give undue credit to any one of them.

Success in teaching should not be judged by what the teacher has taught, it should be measured rather by what the pupils have received. Not how much we teach, but how much the pupil has grasped through us. Often in our anxiety to cover the work of the grade, we neglect the pupil. Our chief concern at all times should be the child; for him the schools are maintained; for him the whole machinery of the school system has been called into existence. Proper methods may be employed and the entire work of the grade may be faithfully covered, and yet it may have been done in such a perfunctory manner that the children have gained but little either in power to think or in knowledge. Those little niceties of method, those devices that soon become mechanical, those very elaborate and beautifully decorated plan books, those "Herbatian steps" often misapplied in conveying knowledge, those all may be used and yet as means to an end may fail in their purpose.

At the present time with some of our advanced theorists, it is considered bad form to emphasize too much the side of results.

I know a prominent educator who declared that if the grade work be properly planned and the methods of presenting the same be correct, that satisfactory results must follow. In other words, if the purely pedagogical side of the work be properly conditioned, the principal could rest assured that his work of supervision was well done. According to this theory, good results must follow proper conditioning "as the day the night."

It is evident to the practical teacher that those pedagogues wise only in theory have never experienced the extreme delight of taking charge of sixty grammar boys in a crowded and poorly ventilated classroom. In our moments of resentment, we may express a fond desire of seeing those idealists teaching in such places, each confronted by a large class of boys from varied and picturesque environments, and representing various racial characteristics and tendencies. We may infer that their plans of work would be ideal and that their methods of presentation would be likewise, but what, pray, would be the results?

How often have we during summer vacations reviewed the errors of our past work and have promised ourselves that work far superior would be done by us during the coming year. Sitting at our ease under a wide branching tree, it was indeed very easy for us to fancy that ideal work would be done by us during the ensuing term. But when those summer days had passed and when we were again before our classes, no longer theorizing but dealing with the actualities of classroom life, how quickly would vanish those ideals and dreams of summer! We had miscalculated because in our plan of work we had not taken the pupil into serious consideration. Methods, plans and pretty devices may have been excellent, but the boy was the same deep mystery as of yore. He would not become for us a piece of mechanism, and because of this our noblest ideals were again beyond our reach.

That definite results are considered by some educators of to-day of secondary importance may be due to the mechanical grind that was required to pass certain examinations in years gone by. It was no doubt truly said that the scriptural injunction, "Get wisdom and with all thy gettings, get understanding" was not taken seriously by those who prepared pupils for examinations. But because those examinations emphasized the results gained very largely through memory and drill, should it follow from this that we of to-day are to discredit definite results?

I verily believe that our whole striving should be for results, yes, and that a portion of these should be definite. If these definite results be reached in the proper manner, I claim that every day the child would be brought nearer to the realization of the following five characteristics given by President Butler as evidences of a liberal education:

1. "Correctness and precision in the use of the mother tongue."
2. "Refined and gentle manners, which are the expression of fixed habits of thought and action."
3. "The power of habit and reflection."
4. "The power of growth."
5. "Efficiency, or the power to do."

At the first glance it may be seen that these evidences of a liberal education enumerated by Dr. Butler cannot be the resultants of the teacher's influence on the pupils and that the definite class results required of the teachers in the public schools of this city are not in harmony with the five requirements stated. A careful study of the subject will show that the results required by the graduate estimate blank of our City Superintendent are in complete harmony with those quoted from President Butler. There seems to be a question in the minds of many that definite results in the several studies pursued are obtained at the expense of those broader results which go to make the full man.

If the teaching be on proper lines, these broader results come as concomitants with the acquisition of knowledge. The teaching that will arouse the pupil to self-activity, that will infuse in him an enthusiasm for his work in overcoming the difficulties encountered, that will give him a clear understanding of the knowledge acquired, is sure to give him fixed habits in doing and in thinking. The real test of the teacher's work is her ability to infuse into her pupils this spirit of work and enthusiasm. We are told in physics that action and reaction are equal. Fortunate, indeed, would it be for us if this law of physics could be applied in the realm of pedagogy. The teacher's whole duty is to work for a proper reaction, on the pupil's part. Learning being an active process, the mind is not merely the recipient, it must act on and assimilate the knowledge received. If real success in teaching be achieved there must be back of the knowledge presented, back of the excellent methods of presentation, the enthusiastic, intelligent and untiring teacher. A teacher of heart as well as of mind. A teacher whose earnestness and interest in the work will be an inspiration for the children under her. What can be more wearisome for a child full of life and vigor than the dull routine carried on under a mechanical teacher? Day after day, month after month the same dreary grind goes on, the same sets of phrases do duty term after term; the grade work is passed over.

The teacher knows the routine work of the grade so well that she is not obliged to study; in time its presentation becomes automatic, the mechanism is complete. She is content, she is self-satisfied. A portion of her time is spent in scolding and in fault-finding because of poorly learned lessons on part of the pupils. She may talk to them of good habits but fails utterly in seeing that they are practiced. If such a teacher's work estimated by the amount of knowledge gained by the pupils is unsatisfactory, it may be termed deplorable estimated from the side of moral and intellectual power. Professor James says that "All our life, so far as it has definite form is but a mass of habits—practical, emotional and intellectual—systematically organized for our weal or woe and bearing us irresistibly towards our destiny whatever the latter may be."

On the other hand, under an excellent teacher the habits acquired by constant practice, and the power gained through persistent effort are of supreme importance to the pupils. De Garmo tells us that "social habits are to be formed by the conduct of the school with respect to regularity, punctuality, silence and industry, also with respect to punishment and to play. The practical efficiency of intellect so necessary to the social man is to be developed by rational methods of conducting the recitation."

Dr. Harris says, "Moral instruction, strictly speaking, should secure the formation of correct moral habits. It would seem that the children in the primary schools and grammar schools should be taught moral practices and habits and that gradually as they go on through the secondary schools and into higher education, they should learn the full theory of the ethical."

Schopenhauer states that "ethical discourses and preaching will just as little produce a virtuous man as all the system of Aesthetics, from Aristotle downwards have produced a poet. For the real nature of virtue the concept is unfruitful just as it is in art."

It may be said that in estimating the teacher's work we are too apt to consider it almost wholly from the amount of knowledge acquired and that we do not take into consideration the fixed habits in doing and thinking gained, that we do not consider whether this knowledge is the result of mere rote work or whether it is well assimilated. In other words, are not our exactions from the pupils such that the teacher is really obliged to pursue rote methods in order to satisfy our demands? Teachers need have no fear in this respect. The work of the rote teacher can soon be detected, while that of the true teacher cannot be mistaken. You enter her class, there is no general "setting up" exercise on the part of the pupils, they are not in a lounging attitude, neither are they in strained physical positions; their attitude is that of attention to the work in hand; each pupil is thinking, each pupil is an active receiver. They are not being merely amused by the teacher's talk; they are interested, their features show that they are not passive recipients; they are workers in a busy workshop. They do the talking instead of the teacher. The latter spends but little time in enumerating the faults of those under her, neither does she waste time in scolding them for their lack of application. It is her task to bring forth the child's best efforts, and nobly does she perform it. The inability of many of our pupils of our grammar departments to glean readily the thought from the printed page, is a serious drawback in their work. But little effective home-work can be done until the pupil will have learned to interpret intelligently the pages of the text book. Imitation is so exceedingly strong in children that the mechanical side of reading is likely to be too much emphasized at the expense of the content side. If, as Dr. Harris says, "in the acquirement of languages the child has the most powerful instrument of self-education that exists," how necessary then it is that especial attention be given this subject. The reading lesson is often a most uninteresting affair. The children spending their whole strength in trying to pronounce the words, give but little, if any, attention to the thought. If more attention were given to oral composition by some teachers, I believe it would tend to improve the English. In recitations too many questions are generally asked—questions that may be answered in a very few words. The teacher does most of the talking. If a boy has clear ideas on a subject, let him express them. The "expression will make more lasting the impression." If definite knowledge be lacking, clear thinking cannot be possible and without clear thinking, excellence in oral and written composition is not attainable. In emphasizing definite results, I do not mean to imply that the chief province of the teacher is to see that the minds of the pupils are stored with a vast mass of isolated facts in the several branches of study; yet it is of vital importance to the child that he acquire certain details in some of the branches in a very definite manner.

If the child is to be educated so that he be fitted for his environment, it is absolutely essential that he should acquire certain habits of correct procedure during his years in school and these habits should be so fixed that they will be of inestimable value to him in his life's work. A thorough knowledge of many details is absolutely necessary on the mechanical side of both reading, composition, letter writing and other lines of works and these details should be so well learned that their correct practice on part of the pupil would be without effort.

Professor James says, "The great thing in all education is to make our nervous system our ally instead of our enemy. It is to fund and capitalize our acquisitions, and live at ease upon the interest of the fund. For this we must make automatic and habitual, as early as possible, as many useful actions as we can, and as carefully guard gainst the growing into ways that are likely to be disadvantageous. The more of the details of our daily life we can hand over to the effortless custody of automatism, the more our higher powers of mind will be set free for their own proper work."

Early in school life the child should have indelibly impressed upon his memory the proper form of the letter, including a knowledge of the punctuation of the heading, the salutation, the closing, and the superscription. The mere knowing is not enough. The teacher should see that it is practiced until the habit of writing the correct form is acquired. Many teachers in the higher grammar grades know only too well of the general inefficiency shown by the pupils in this line of work. Term after term the correct form is taught and term after term the pupils fail in reproducing it correctly. In reading and oral composition it is necessary that the pupil be so trained in correct enunciation and pronunciation that in time this correctness becomes incorporated with his common speech. In this work a teacher may give faithful and intelligent instruction and yet fail in her task, if she does not see that the pupil's speech is carefully supervised day after day. To succeed in this, there can be no relaxation of effort by the teacher. On the other hand, it need not be a disagreeable task for the pupil, if the teacher infuse in him an interest and pride in his spoken language. While this training is necessary to every child, it is of prime importance to those pupils whose home environments are not conducive to proper training in English. How often do we see graduates of our public schools lamentably deficient in the formal side of our language, owing to the lack of proper care in teaching, it may be, extending over a term of years. If great care be given to this side of the language in the lower grades, but little of this work remains to be done for the teachers of the higher grades. It may be said that success in this line of work ought not be expected in certain schools because of the unfavorable environments of the pupils attending. I believe that in the poorer neighborhoods, the more marked the success of faithful and efficient work must be; for in those localities everything depends on school influence and not on the home. In proof of this it may be cited that schools laboring under similar conditions show very different results. At times under a strong teacher, may be found a class that stands out in pleasing contrast with those of the same and even higher grades. It is evident that real success cannot be attained in any school in this very important part of the work in English unless the principal and teachers put forth earnest and persistent efforts to free the pupil's speech from those glaring inaccuracies. Phonic exercises and drill in pronouncing lists of words in common use are not sufficient; because this instruction, if not re-enforced by constant practice, will not overcome the street and home influence of the child.

It is conceded that a legible hand in penmanship with a fair degree of rapidity is a desirable requisite for a pupil to possess on leaving school. In my experience in school work, I find that success in teaching this important branch is due more to the pains taken by the teacher than to the excellence of her method in teaching it. In many instances it may be noted that the penmanship is more legible in grade 3B than in grade 5B or higher grades, owing no doubt to the fact that more care is given to this subject in the primary. A very serious drawback to good penmanship in the grammar grades is, that while in the copybooks great pains are taken to produce creditable results, making at times the work seem an end in itself rather than a means to an end, in all the other written work of the pupils comparatively little pains are taken. Thus in a few lines of the copybook each week the pupil is held to a rigid account, while leaves of his notebooks and pages of other paper are covered each week with a mere scribble. Do we not at times require too much written work and pay too little attention to the standard of penmanship given by the pupils on these papers? The notebooks and written papers brought in by the pupils and not the copybooks show their true hand in penmanship. Through constant practice in time this indifferent work becomes an acquired and fixed habit in writing.

It may also be stated that the low standard of penmanship in the lower grammar grades may be due in part to the fact that experienced and well trained teachers are generally in charge of the higher primary classes, while those of the first years of the grammar are taught by young and inexperienced teachers. The prime object for which to strive in teaching penmanship is not to produce show papers or copybooks that may be considered as an end rather than a means to an end. This work even in the higher grades, is often produced in a most laborious manner, and the apparent object in view seems to be a beautiful production for exhibition rather than the development of a good hand in penmanship. In the latter years of the course, a fair degree of rapidity should not be inconsistent with legible handwriting. A teacher who considers the period allotted to penmanship one of partial rest, is sure to fail in her task; for success in this branch is not possible unless unusual care be exercised by the instructor in charge.

In number work in arithmetic the course of study very wisely provides that the lessons in concrete illustrations and in development should be followed by memory exercises. The addition, subtraction, multiplication and division tables should be so well learned that there should be no hesitancy whatever on the pupil's part in answering. In due time the several combinations should be thoroughly practiced in brief oral exercises. These drills, if properly conducted, are very effective in producing power of concentration and alertness of mind in the pupils. While this subject has little to do with nice discriminations, broad comparisons, balancing of rights and wrongs and broad sweeps of the imagination, it has to do with derivations and with logical deductions. The inductive and deductive processes should go hand in hand—the one for the derivation of rules and principles, and the other for the application of the rules and principles derived. In these times when so much stress is laid upon form and process, when development in number work through the concrete is so much emphasized in methods of presentation, is it not possible that too little attention may be given to the deductive side of this subject? The importance of proper concrete development in number work is unquestioned, but this is of little real value unless it be supplemented by a thorough drill in applying in a practical manner the rules derived. For the boy who leaves school at the age of fourteen, those development exercises are of slight use only so far as to assist him in solving arithmetical problems. They are merely a means to an end.

The commercial value of this branch for the average school boy depends more upon the thoroughness of his knowledge in the restricted field, than upon a broad knowledge of the subject that lacks thoroughness. Arithmetic being an exact science, accuracy should be insisted upon at all times. Its practical value for the boy may be measured by his ability to obtain correct results with reasonable facility. The ability to add, subtract, multiply and divide with accuracy and rapidity is of great advantage to the boy. While I would not minimize the good results which come from the inductive lessons, I would emphasize the importance of legible figures, of exact statements and of correct results.

Habits of exactness and accuracy are of great value to the business man. These habits should be acquired in school, and no study in the entire curriculum is more conducive to the formation of them than is arithmetic. From the standpoint of utility, the ability to add with accuracy and dispatch is of unquestioned value to the boy entering business.

In teaching language and grammar it would be well for the teacher to bear in mind these lines from Milton:

> "To know that which before us lies in daily life,
> Is the prime wisdom."

And what branch of learning, pray, lies more in the daily life of the child and the adult than language? It is not enough that a pupil should know the correct forms of language; they should be incorporated in his daily speech. They should not be learned for the purpose of passing examinations, they should be part of his every day utterances. Many educated adults can pass examinations in grammar, but fail to speak correct English. If grammar be taught for the sole purpose of enabling the pupil to answer technical questions in examinations, it has failed utterly in its purpose.

It has not fulfilled its mission unless it has aided in concise and definite thinking and in correct speaking and writing. In recent years the study of grammar has become so restricted and so indefinite in certain cities it has taken a secondary place to many of the common school branches.

The pendulum has swung from the purely mechanical teaching of this subject to very indefinite, and it may also be said to very indifferent work in this important branch. If in arithmetic it is necessary that the inductive process should be supplemented by the deductive, it is likewise essential in grammar that the analytic method should be followed by the synthetic. Practice in writing and speaking should go hand in hand with analysis. The discerning of relations in analysis is no better mental drill for the pupil than the combining of his scattered thoughts into concise statements.

The pupil's knowledge of grammar should be applied in his oral and written speech. His knowledge of etymology and syntax should be put in practice daily. It is not enough to teach the pupil to know the syntax of pronouns when he sees them in sentences; he should be taught to use those parts of speech correctly. It is of little value to teach the boy the tenses unless he is taught to use the correct tense form in his daily speech.

The more successful the teacher is in this subject, the more will he insist upon the practice of correct English. Placing emphasis upon the synthetic side of grammar and language does not imply that the pupil should not have a thorough knowledge of technical grammar. When this knowledge is made an end in itself, instead of a means to an end, it may be considered of little value, but when it is used as a means only, it is of great importance. It is essential that the boy should have some definite guides to follow in his use of the mother tongue, and grammar should give him those guides. A senseless repetition of the parsing forms, declensions, conjugations, and other mechanical routine work in grammar week after week, produces very meagre results, if the time spent and the energy expended be taken into consideration. If the study of this branch do not give the pupils added power in thought and expression, it has failed in its mission.

In the teacher's anxiety to cover the grade, the study of history often becomes the routine work of memorizing a series of isolated facts. In grade 5A, the mass of facts presented to the pupils may be gleaned by the teacher from some encyclopedia. These condensed statements to the young learners are generally uninteresting and oft-times meaningless. Memorizing in this subject often takes the place of discriminating of judging and of learning lessons in patriotism.

The logical sequence of events, the ability to grasp the salient point, and the ethical sense are lost sight of in order that the children may be able to repeat unimportant details. There is a noticeable tendency throughout the entire course in history of attempting too much and of giving more attention to trivial details than their importance demands. It should not be incumbent on a little boy or girl of thirteen years to learn of the infelicities attending the private life of Henry VIII. It may be said that the course of study was written by the Board of Superintendents and that the teacher is obliged to follow it as laid down. This is true, and yet, it is also true that no two teachers in our system would give identical interpretations to any one grade in the course of study. The course for the teacher is whatever she sees in it. It is her interpretation of it. This is one reason why the teacher should have not only a thorough knowledge of the subject she teaches, but a comprehensive knowledge as well. Such a teacher stands on a vantage point and has in full view the essentials and the non-essentials. Her knowledge will enable her to place emphasis upon the important points and the general outline of the work, while the details will be considered of secondary importance.

The slavery question in the United States is often taught without any semblance of logical sequence. Each event in which slavery bears an important part is often taught as though it were isolated from all other events treating of this important subject.

Perhaps there is no other branch in the entire curriculum of the elementary school course, that requires a broader intelligence in the teacher than geography. Years ago when but little of the human element was considered in this subject, when map questions and mathematical geography constituted the major portion of it, the teacher needed but little special preparation in presenting it. At the present time, when so much of the human element enters it, when to the physical, mathematical, and political sides are added the industrial and commercial in all their various complexities, it is incumbent on the teacher to be well versed in the growth and relative importance of the leading commercial and industrial activities of the world. As this knowledge cannot be obtained only in part from the textbooks, it is therefore necessary that the teacher should be well-informed on the current literature relating to these activities in newspapers and magazines. To make the work simple and yet comprehensive for the pupil, requires that the teacher have a broad knowledge of the subject. To say that a class is not interested in geography, is to say that the pupils of the class have a poor apperceptive basis or else that the teacher is lacking in teaching power and knowledge of the subject. There is so much of the human element in this study, a thorough teacher cannot fail to interest her pupils. If taught in the manner the course directs, it not only gives to the pupils useful knowledge, but strengthens the logical powers of the mind and aids materially in developing the imagination of the pupil. As in history, too many details are taught at the expense of the essentials. I do not wish it understood that I consider details of no importance, but I do consider that the time allotted to the various points of the lesson or to the different portions of the subject for the term's work should be measured by their relative importance.

For illustration, we may take our own country. The States have been taught separately and in groups. Something concerning the productions of each State has been learned. The pupil has read that iron is found in nearly every State and that coal is mined in several of them. In grade 7B the pupil utilizes his previous knowledge of the United States and learns of its commerce, its commercial routes and industries. Upon the completion of this grade, how much does he know of the coal question of this country? The average boy of grade 7B will tell you that Pennsylvania not only produces most of our coal, but our iron ore as well. He does not know that a large proportion of the latter is produced near the western end of Lake Superior and that Pennsylvania is noted for the production of anthracite coal only, and that the great bulk of our yearly production of coal is bituminous. He little realizes the close connection between coal and iron ore in the industrial and commercial sense. The great iron and steel works of the Middle West are located on or near the lower lakes so as to be convenient to the coal supply, on the one side, and at the same time have the advantage of cheap transportation by water for their iron ore from the mines near Lake Superior.

How many of our graduates have a clear conception of the wonderful growth of our lake commerce and the causes thereof? How many know of the recent industrial awakening of the South? Our textbooks assist but little in giving us a clear conception of the commercial and industrial condition of the United States and of their interdependence.

In closing, I desire to state that I do not in any sense wish to depreciate the value of proper methods intelligently applied. They are one of the essential factors which make a teacher successful. Without them true success cannot be achieved, but methods, however excellent, cannot insure success if the teacher be lacking in other necessary qualifications. She should know the value of clear succinct statements; she should know that rote work is valueless; she should know that her class work cannot be estimated by the answers of a few bright pupils; she should know of the deficiencies of her class without a statement from her principal or superintendent; she should see that the spirit of the work was not sacrificed to the form; she should be free from worry and anxiety, even though large piles of papers be uncorrected; she should not feel that she is burdened with impossible tasks; she should know that textbooks, plans of work and methods are but aids and are of value in so far as they bring forth valuable results; she should know that her ability as a teacher depends largely upon her success in arousing in the pupils an interest and self-activity in the work at hand; and, lastly, she should fully realize that her real success is measured by the growth and development of the human beings under her charge.

Graded Movement Exercises

By Marie L. Bayer, P. S. 34, Brooklyn.

In A. H. Garlick's *A New Manual of Method,* "legibility, grace or symmetry, ease, and rapidity" are given as necessary characteristics to good writing.

Another authority has given as essential qualities six S's: Slant, space, shape, size, speed, shading.

I believe we can get good writing by laying stress upon the importance of the down strokes. These must be:

1. Regular, *i. e.,* uniformly slanted with reference to the base line.
2. Straight, in the sense of not curved, *i. e.,* with certain exceptions, such as e, c, s, etc. As many children do not realize that oblique lines are straight, teachers must exercise care in providing children with a correct concept of ***straight,*** meaning ***not curved.***

If any specimen of bad penmanship is analyzed, it will be found that most of the trouble is the result of (1) lack of uniformity in the slant of down strokes, and (2) to curved or broken instead of straight down strokes.

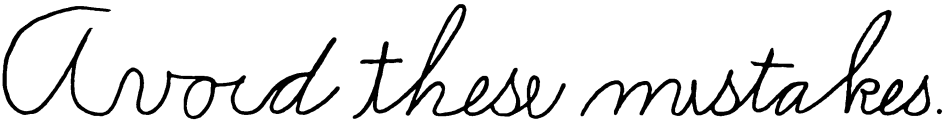
Avoid these mistakes.

Fig. 1.

In the above specimen (Fig. 1) these two general errors may be noted. There is also a lack of uniformity in size, but there are comparatively few poorly ***shaped*** letters.

Of course, ***up*** strokes, to a great degree, influence the character of writing. Here we find that the final up stroke of the *m* either prevents proper spacing or it causes the next letter to be incorrectly formed or irregularly slanted. If, however, the necessity for making the down strokes of a certain and regular slant is strongly impressed upon the mind of the writer, he will exercise better judgment in making the up strokes.

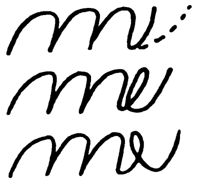

Fig. 2.

THE CIRCLE AS A BASIS OF MOVEMENT DRILLS.

For writing in which the slant is about 75° the drill in the circle helps to produce correct habits in forming the elements of which letters are composed. For example, in Exercise 1, Plate A, the up stroke forming the lower right quarter of the circumference gives approximately the lower turn found in some of the up strokes of i, u, w, e, c, a, r, x, t, d, l, h and other letters. In Exercise 6 the line forming the upper left hand quarter of the circumference gives the full upper turns found in m, n, v, x, y, z. Through power to make correctly these upper and lower turns, the ability to space correctly is acquired. Notice in Fig. 2 that the final upper turn of the m would not coincide with the circle as in Exercise 5—the final curve of *m* being the same as that of *e*.

GENERAL SUGGESTIONS FOR MOVEMENT EXERCISES.

1. Before giving an exercise to the class, the teacher should practice it in order to know what difficulties are to be overcome.
2. Aim for ease and control of movement.
3. Insist upon bold, quick movements.
4. Do not allow carefully *drawn* lines, nor attempts to make succeeding lines coincide with lines previously written. (See carefully *drawn* "square" circle, Fig. 4.)
5. Have circles and letters gone over many, many times. Use blotters when necessary; but don't worry if the drill papers are not "pretty." The drills are a means, not an end.
6. Let the circle be the servant, not the master of the letter. In other words, do not, because of a false conception as to the sacredness of the circle, attempt to make all letters conform to its boundaries. Some letters must go beyond the circle; for example, h, y, B, etc.
7. Emphasize the importance of correct and regular slant.
8. Make straight down strokes parallel.
9. Apply knowledge and skill gained in writing drills to other writing exercises. For instance, if A is practiced in a writing drill, have dictation exercises begin with Always, Alice, etc. On the other hand, if in a written composition or other written exercise a certain letter occurs many times that letter should be practiced in a preceding writing period.
10. Above 2A, in all writing exercises, both copybook and general writing, insistence must be laid upon correct penholding. (See Course of Study.)
11. Remember that no matter how regularly you may have movement exercises, you will not get good writing unless you insist upon and allow sufficient time for good writing in all other writing exercises.
12. Remember that children imitate a teacher's frailties as readily as her excellences; hence, do not write carelessly upon the blackboard.
13. Occasionally test, with a protractor, the correctness and uniformity of the slant of your blackboard models.

GRADED MOVEMENT EXERCISES.—IA.

"The work of this grade is not only a study of form, but the development of skill in handling writing materials, and ease in arm movements. There should be daily free-arm exercises on the blackboard and on paper. For movement exercises and copy work, the paper should be unruled and in large sheets. The pupils' writing should be large, the minimum height of the one space letters being one inch. Very soft lead pencils or crayons should be used."—*Course of Study, City of New York.*

Although the course of study permits soft pencils to be used, crayons will be found to give greater satisfaction. These may be three or four inches long and may be held the same as chalk is held for blackboard writing.

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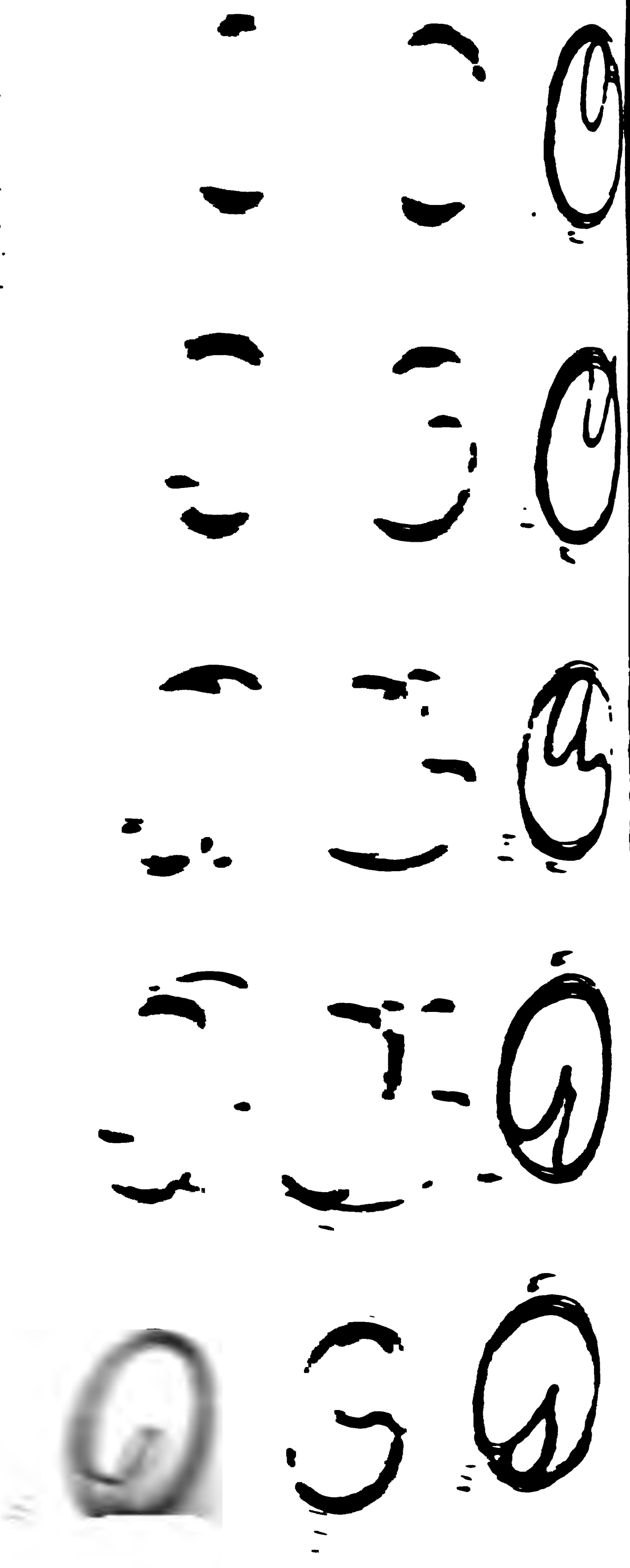


ERCISES PLANNED FOR 1A.

sive, Plate A, and 31-35 inclusive, Plate C, one 3a and 3b, showing the front and rear sides of cal example of an exercise for 1A.

8 or 7 × 7. The size of the desks in most cases paper impracticable. Large exercises compel arm exercises permit and encourage finger movements

ing paper is excellent for crayon work. Wrapping roper size will be found more economical.

king the circles, leave a large margin; *e. g.*, if the meter, the circle should be not more than 5 inches in wo important reasons for this direction: (1) the child

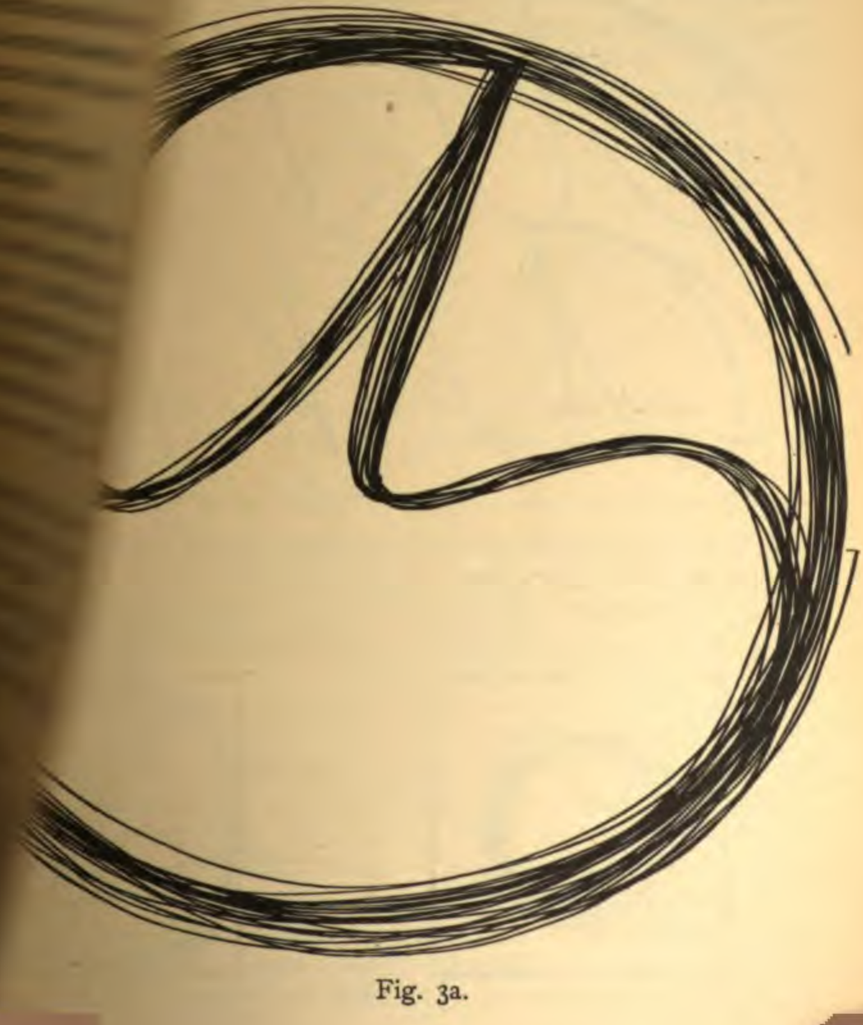


Fig. 3a.

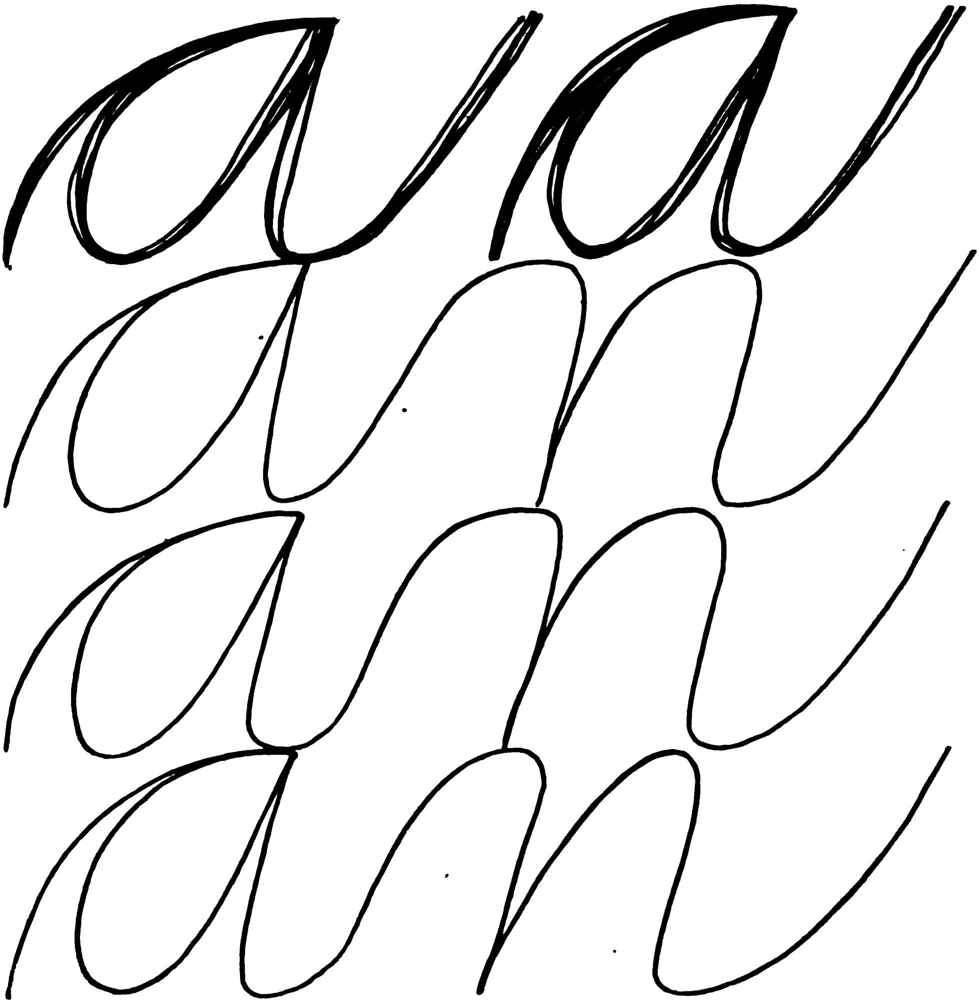


Fig. 3b.

must have sufficient space to hold the paper steady; (2) the child will not be apt to draw "square" circles. (See illustration, Fig. 4.)

There should be two parts to every movement exercise. The first part should be for the purpose of getting a good free movement of the arm

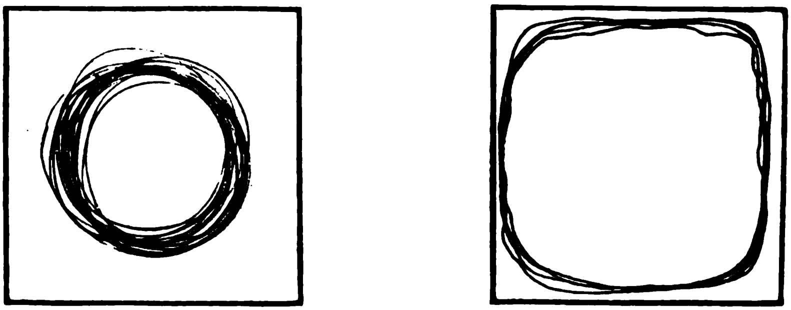


Fig. 4.

while writing the exercise continuously and many times. (See Fig. 3a.) The second part of the exercise should consist in writing without the aid of the circle the letter just practiced in the circle, and in writing this new letter in combination with one previously practiced. (See Fig. 3b.) Besides, although the essential parts of the letters or their elements are emphasized in the circle drills yet the beginnings and endings of the letters cannot be completely given in the circle; hence the necessity for the second part of the exercise. The skill gained in the first part through drill is applied practically in the second part, in which the letters ars greatly reduced in size.

For economy of time in giving out material, the one piece of paper should be used for both parts of the exercise.

These two parts of the exercise may be given in one period; or, in order to rest the eyes and arms, may be separated by a short oral exercise.

Position: If conditions would permit each child to be furnished with a blackboard, I believe the habit of cramped writing would not be formed. This ideal condition may be approximated during the writing drills by having the children stand in the aisles (*i. e.*, if there are single desks) facing the sides of the desks. Considered from a hygienic standpoint, it is a relief to the children to be out of their seats. Dr. Shaw, in *School Hygiene*, advises that children in the first year be allowed out of their seats two-thirds of the time.

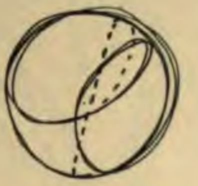
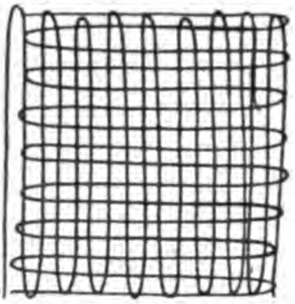


Fig. 5.

Counting: Better results follow if teachers count while the children practice their drills. The speed of the children is regulated by the teacher, and the children are trained to respond to orders. Of course, the teacher must exercise eternal vigilance to see that the children respond to her counting. The counting should be rythmical, *one*, two, three; *one*, two, three, etc., for the circles, with an accent on *one*, as in waltz music. For the tinting (the horizontal lining in the higher grades) the counting should be *one, two; one, two.* The children should, at a command from the teacher, thrust their right arms out forcibly, pointing their index fingers at the circle on the blackboard. Then keeping time with the teacher's counting, they should write their circles in the air. After making ten or twelve circles in the air, the children should write on their papers. The teacher should see that every child starts either at the top or at the bottom of the paper (according to the exercise) and goes in the direction she specifies. At a given signal, "Crayons!" the pupils should instantly raise their crayons in the air, and at a second signal, "Desks!" should place the crayons on the desks. There should



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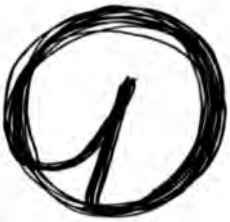

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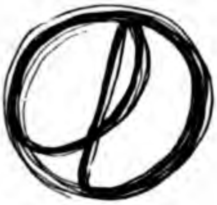

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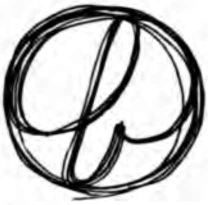

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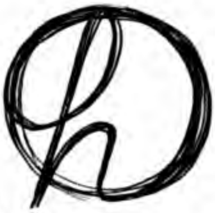

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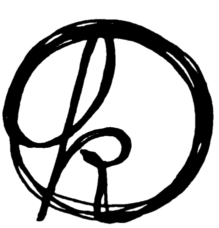

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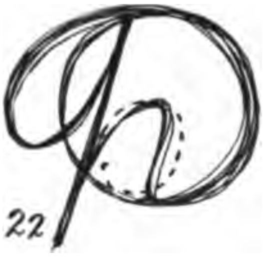

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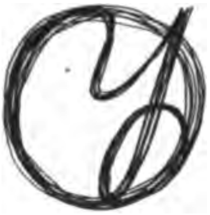

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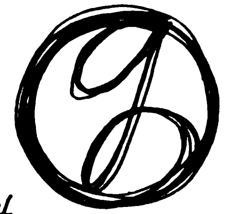

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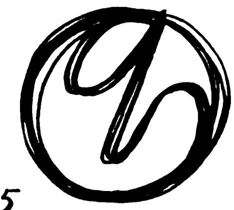

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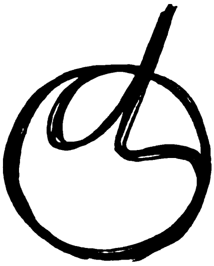

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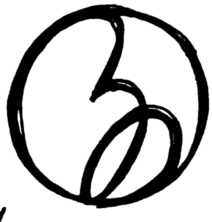

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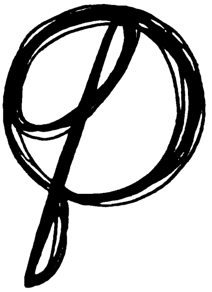

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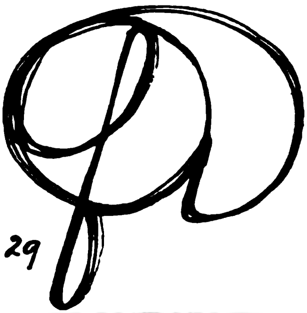

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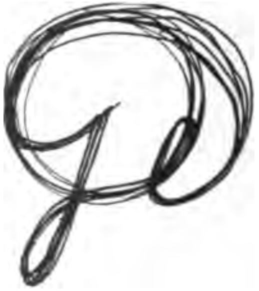


30

PLATE B.

be more writing in the air, followed by further writing on papers. It is hardly possible to go over the exercise too many times.

When the papers are turned to the clean side for the second part of the exercise (Fig. 3b) the pupils should sit.

In order to lay a foundation for good writing, teachers of the first year grades must prevent such mistakes as (1) down strokes irregularly slanted, and (2) curved instead of straight lines. See Fig. 5.

GRADE 1B.

1B. Exercises 16-30, Plate B, inclusive; also *is, ls, tr, he, th* combined similar to exercises 28-30. Size 7 × 7.

TINTING.

Tinting (Exercise 16, Plate B) is here introduced to develop *lateral swing* of the hand and forearm as a unit. The purpose of acquiring this lateral swing is to gain power to write words without raising the pen or "inching" along the writing line by twisting the wrist around. In 1B the space between the lines should be from ⅜ to ½ inch. The teacher should count 1, 2; 1, 2. After the paper has been written across it should be turned around and by another series of *lateral* strokes the square should be cross-tinted. Insist on bold strokes, the hand sliding along on the nails, and do not permit the distance to be covered by short, jerky twists of the wrist. Be watchful, or some pupils will cross-tint up and down instead of turning the paper and writing from side to side.

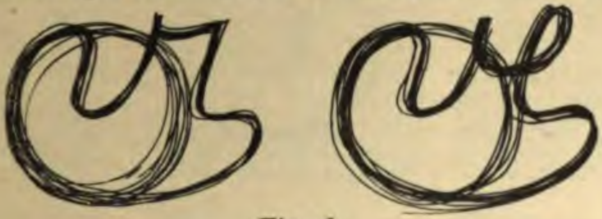


Fig. 6.

GRADE 2A.

2A. Exercises 36-56 inclusive, Plates C and D. Size 6 × 6. Soft pencils should be used in this grade.

GRADE 2B.

2B. In this grade special attention should be given to drill on combinations of letters, some of which work is shown in Exercises 28-30, Plate B, and 57-60, Plate D. These combinations may be arranged in three groups: 1. Those in which the lower right hand quarter of the circumference is used as the starting or initial stroke of the second letter, as in *ie, ei, es, er, ir, il, if, sp, rk, lb, ls, le,* etc. 2. Those in which the second letter is in nowise aided by the circle, but is merely parallel in some part to the first letter made in the circle, as *ag, gy, oc, co,* etc. 3. Those in which there are certain difficulties which must be overcome and where the circle is used to help in the first letter and to aid in a continuous drill, as *os, or, ve, vi.*

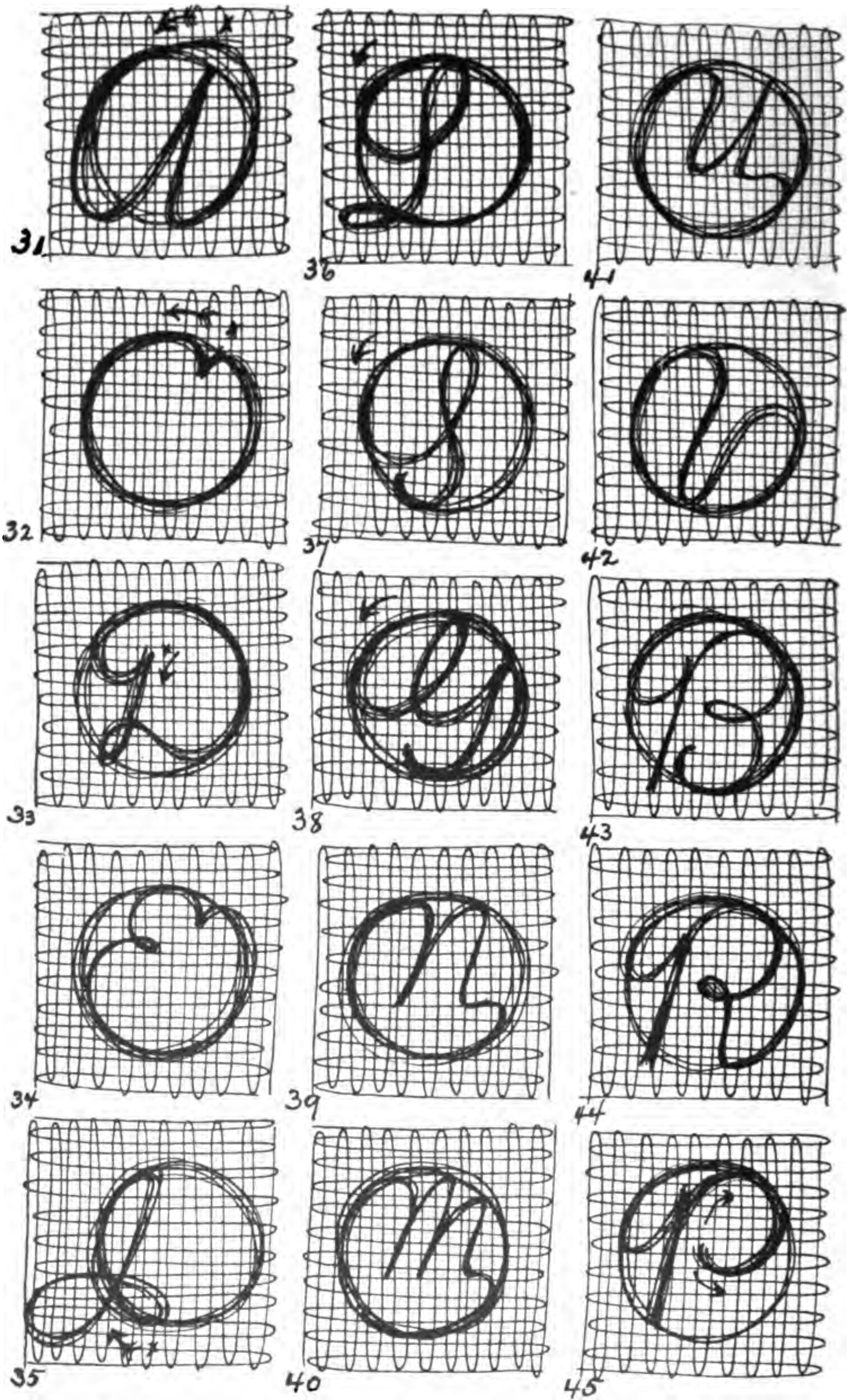


PLATE C.

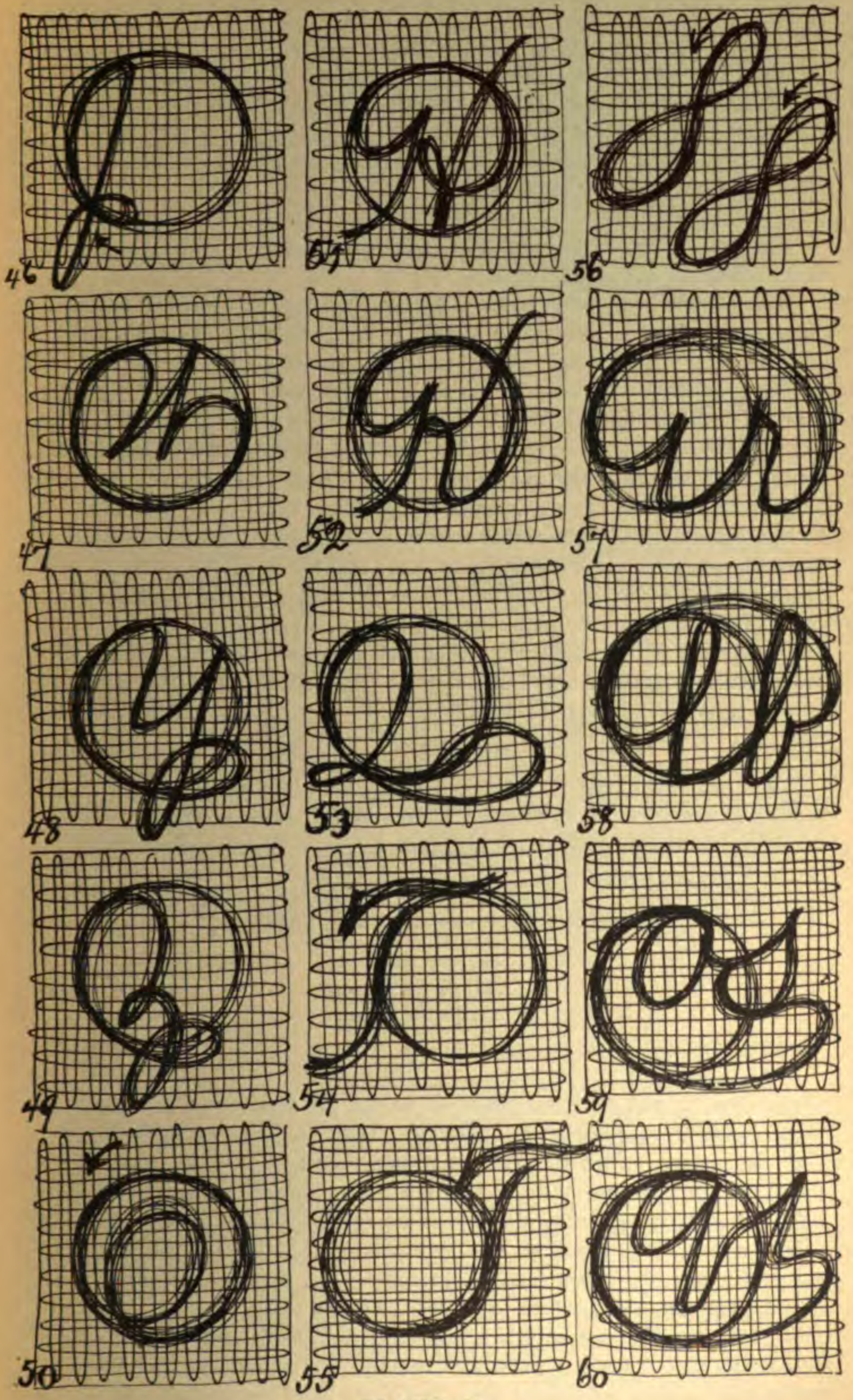


PLATE D.

The children should observe that the final line of the v differs according to the letter to which it is joined. Similar combinations are *oi, os, ol, or.* In *os* and *or* the connecting line must dip as in ve. Compare *bi* and *be.*

Paper should be oblong, 7 × 5, so as to provide space for two letters. Writing is also reduced in size.

PENCIL-HOLDING.

In this and succeeding grades, great stress is laid on correct pencil and pen holding.

No matter how many times a day you tell the pupils to take pencils, first require them to place their pencils in the grooves of the desks so that the point is toward the right side of the desk (except for left-handed pupils). As some children are never certain which is the right, the watchful teacher will glance about quickly to see that this order is obeyed. Then, "Turn your hands over and take pencils." It will be found that the pencil when picked up is held naturally in a correct maner between the first finger and the thumb. The second finger is used as an under brace, and the third and fourth fingers are slightly curled so that the hand may slide on the nails of these fingers. Then the teacher must insist that the wrist is kept flat, almost touching the desk; then the pencil will be pointing over the shoulder and if the arm is raised may be placed behind the ear. The hand should *not* turn over so that it rests on the side, for in such a position the hand cannot slide on the nails of the third and fourth fingers. Tell the children that only "lazy hands" turn over and rest on the sides.

GRADE 3A.

3A. In this grade the principal difficulty is the pen-holding. If the teacher of the 2B grade has trained the pupils to hold their pencils correctly, the 3A teacher will have little more to do, for the same directions given for pencil holding are good for pen holding. There is, however, one additional point to notice. When the hand is turned over and the pen is taken, the points of the pen may be turned in the wrong direction. If so, the penholder must be turned around between the first finger and the thumb. The points should be turned so that in making the down strokes of 75° the pressure on the two points will be equal. Or, if pressure is exerted on the pen, only the down strokes (75°) will be found shaded.

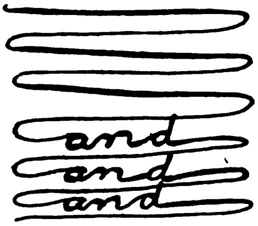


Fig. 7.

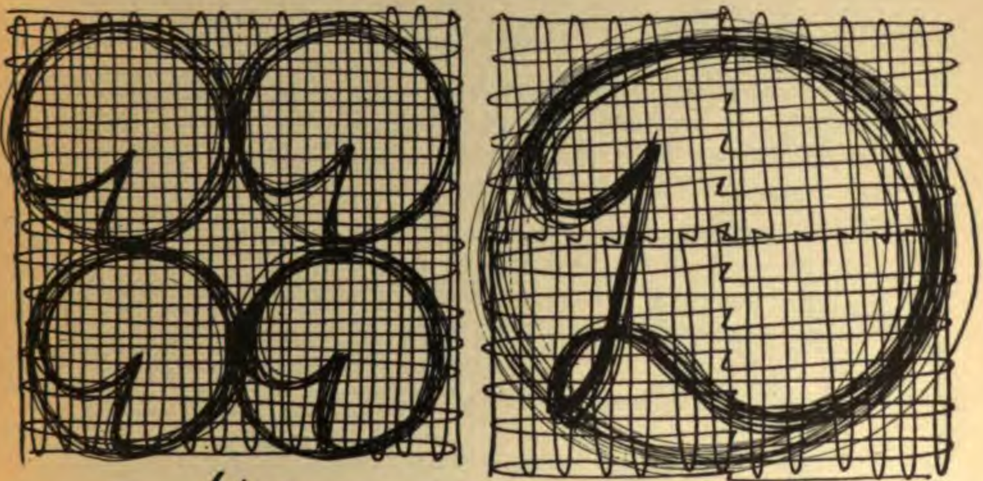
In Fig. 7, the pen was held incorrectly. The lateral shading shows either (1) that the whole hand was turned over on the side and the penholder was pointing toward the right; or (2) the hand and penholder both may have been in the right position, but the penholder was twisted so that the nibs opened when going sidewise toward the right. When the teacher finds such writing she should know at once that the pen was held wrong. However, the pen may be held in this incorrect way and yet the writing may give no evidence. This is the case when no extra pressure is exerted in making side strokes. Hence, it is necessary for the teacher to be watchful when the pupils are writing.

Special work: Review all the small letters singly, first tinting and cross-tinting the papers. Size, 5 × 5. The space between the lines in the tinting should be reduced to ¼ inch or less.

GRADE 3B.

3B. Review capitals. Size, 4 × 4. The space between the tinting should be reduced to nearly ⅛ inch.

GRADE 4A.



61 a

61 b

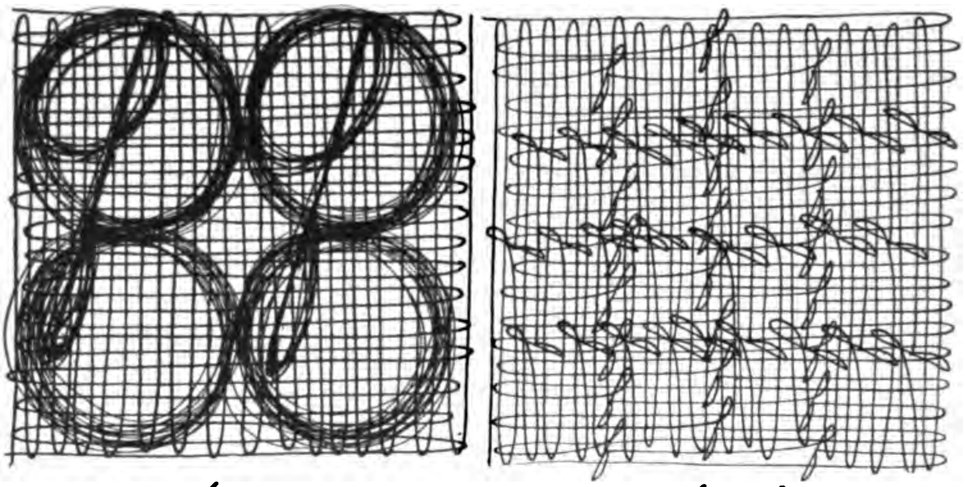
PLATE E.

Exercises 61a and 61b, Plate E, show two sides of the paper of the lessons for the first week; 61a and 62b, of the lesson for the nineteenth week.

In this grade two new features are introduced: (1) the making of four circles instead of one circle on the paper; (2) the writing of a letter in the tinting. The letters are also reduced in size.

There should be no tinting on the side of the paper first written on. The four circles should be drilled on. Then the letter to be practiced should be written a number of times in each circle. After that is done, the letter thus practiced should be written in the tinting on the reverse side of the paper. The capitals may be reviewed, if desired, by writing a large circle, and a capital therein on the tinted side of the paper.

GRADE 4A.

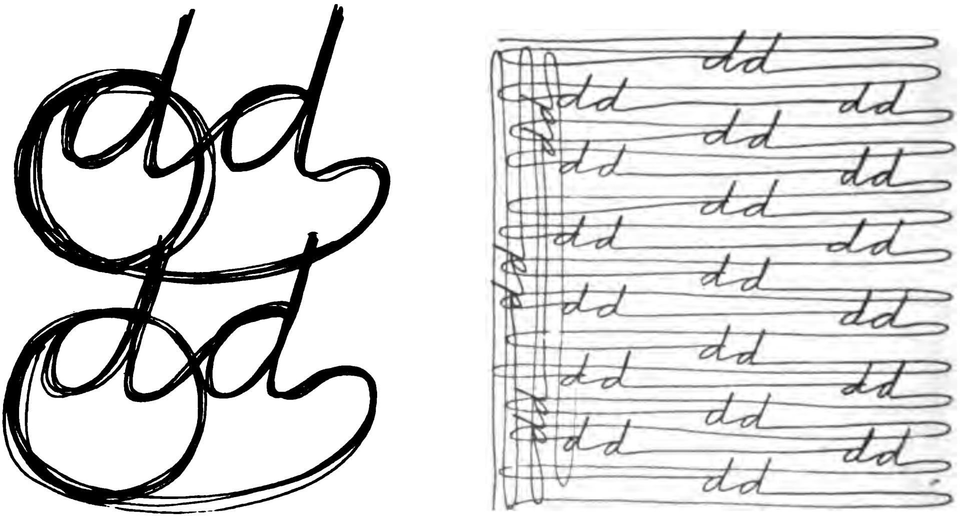


62 a PLATE E. 62 b

The following order of exercises, increasing in difficulty, is suggested, one a week; i, e, m, (see Exercise 7, Plate A) c, o, r, s, a, g, q, d (*a* in two upper circles, *d* in two lower circles), z, v (Exercise 12), y, l, b, h, k, f, t.

Size of paper, 5 × 5.

GRADE 4B.



63a PLATE F. 63b

4B. The special work of this grade is that of writing the same letter twice, so as to get the same slant, shape and size. The writing of letters in combination is similar to the drills in 1B and 2B. The tinting is similar to that done in 4A, only two letters are tinted in 4B instead of one as in 4A.

Order of exercises, same as in 4A.

Size of paper, 4 × 4. The teacher should be sure to practice each exercise before giving it to the class in order to become acquainted with difficulties. For instance, in a *d* drill, the circle must be made toward the bottom, leaving a good space at the top of the paper in order to allow for the line above the *a* part of the *d*.

The paper should be placed well up on the desk so as to permit the arm to swing freely.

GRADE 5A.

5A. Special attention should be paid to the slant of the down strokes. The slant should be uniform, about 75°. Method: First recall old knowledge and reinforce old habits by a movement exercise in a circle. The second step is to drill on a letter, written twice, without the aid of the circle—more difficult than the work in 4B. Then if sufficient attention has been paid to the degree and regularity of slant, the third step should show good results in uniformity of slant, size, shape and spacing. In the third step, after the letter is written as many times as possible across the paper, the pen should be swept back again as in tinting. Here skill gained through tinting in the previous grades is applied in a new way.

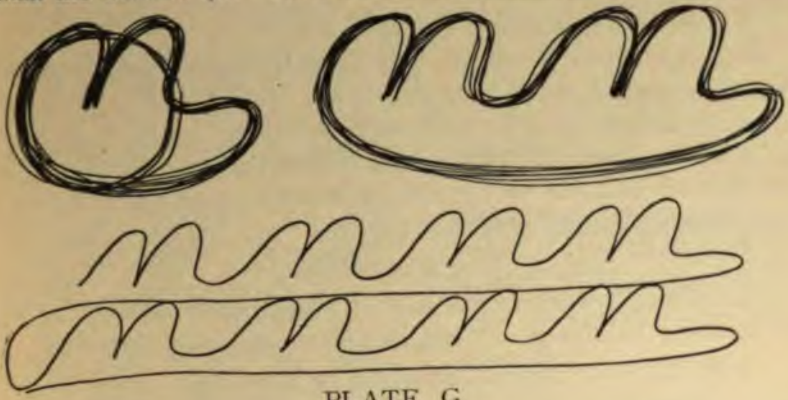


PLATE G.

Size of paper. If paper 5 × 5 is used, the exercise as given may be written twice on each side.

For the order in which the letters should be practiced, see plan of 4A.

GRADE 5B.

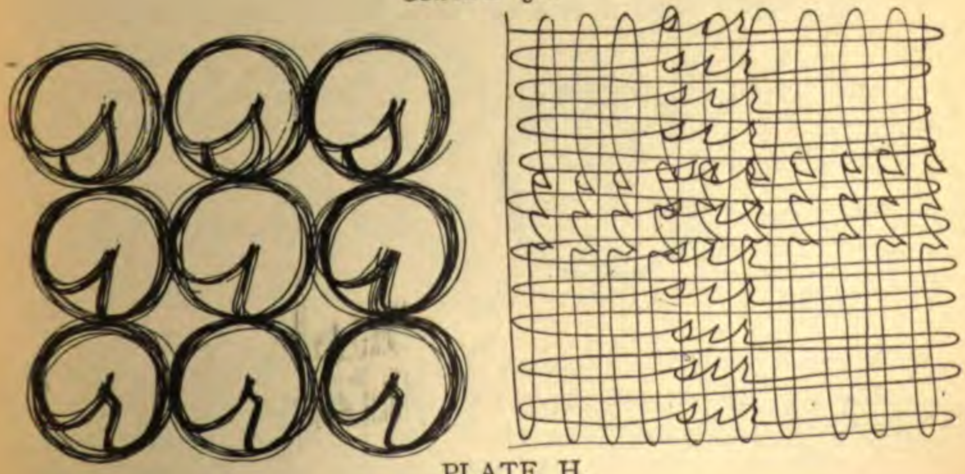


PLATE H.

5B. The size of the writing should be smaller than in previous grades. The paper should be about 3 × 3, thus making each circle less than an inch in diameter.

The teacher should select a number of words or combinations of small letters in which some difficulty is presented. Then each letter should be practiced many times in a row of circles. Special attention should be given to correct pen-holding and ease of movement. Uniform slant must be insisted on. After the letters are thus drilled on one side of the paper, the word or combination of leters should be written in the tinting on the reverse side.

GRADE 6A.

6A. See Plates I and J. The work is planned for one exercise a week. The method is similar to that of 5B.

Size of letters, about the same as in the plates.

This exercise should be repeated several times on *unruled* paper. If ruled paper is used the writing should be across the lines, *i. e.,* the lateral strokes should be at right angles to the lines.

GRADE 6B.

6B. General review. The teacher should select drills so as to overcome errors. A different exercise may be written every day.

SPECIAL CRITICISM OF LETTERS.

I have tried to make the illustrations speak for themselves; but there are a few points which may escape the eye of the reader.

1. Exercise 10 was purposely given before Exercise 11 (Plate A) because the *o* is very much like the c, and is based upon it. The *o* drill should, like the *c,* begin at the bottom of the circle. The crook part should be exaggerated so as to avoid error shown below. If the o is begun at the top of the circle, the tendency is to connect the two ends at the top and the result is a pointed *o,* shaped like a melon seed, Fig. 8.

2. In writing a letter once in a circle it is impossible, without awkwardness, to swing the end of the letter around to the beginning in more than one way; *e. g.,* the end of the *e* goes up over itself, while in the *a* the line goes under. In writing two letters so that one or both is written without a circle, it is possible to swing the connecting line either over or under the letters. *But* the direction followed in the circle will be found the best.

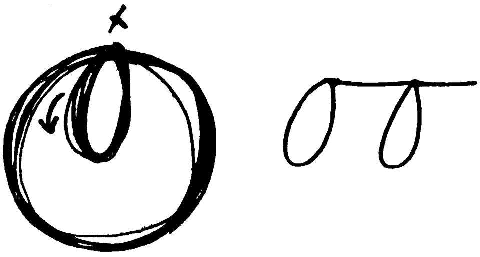


Fig. 8.

3. The sign of infinity in an oblique position (Fig. 56, Plate D) will be found a good drill for F and T, L and S.

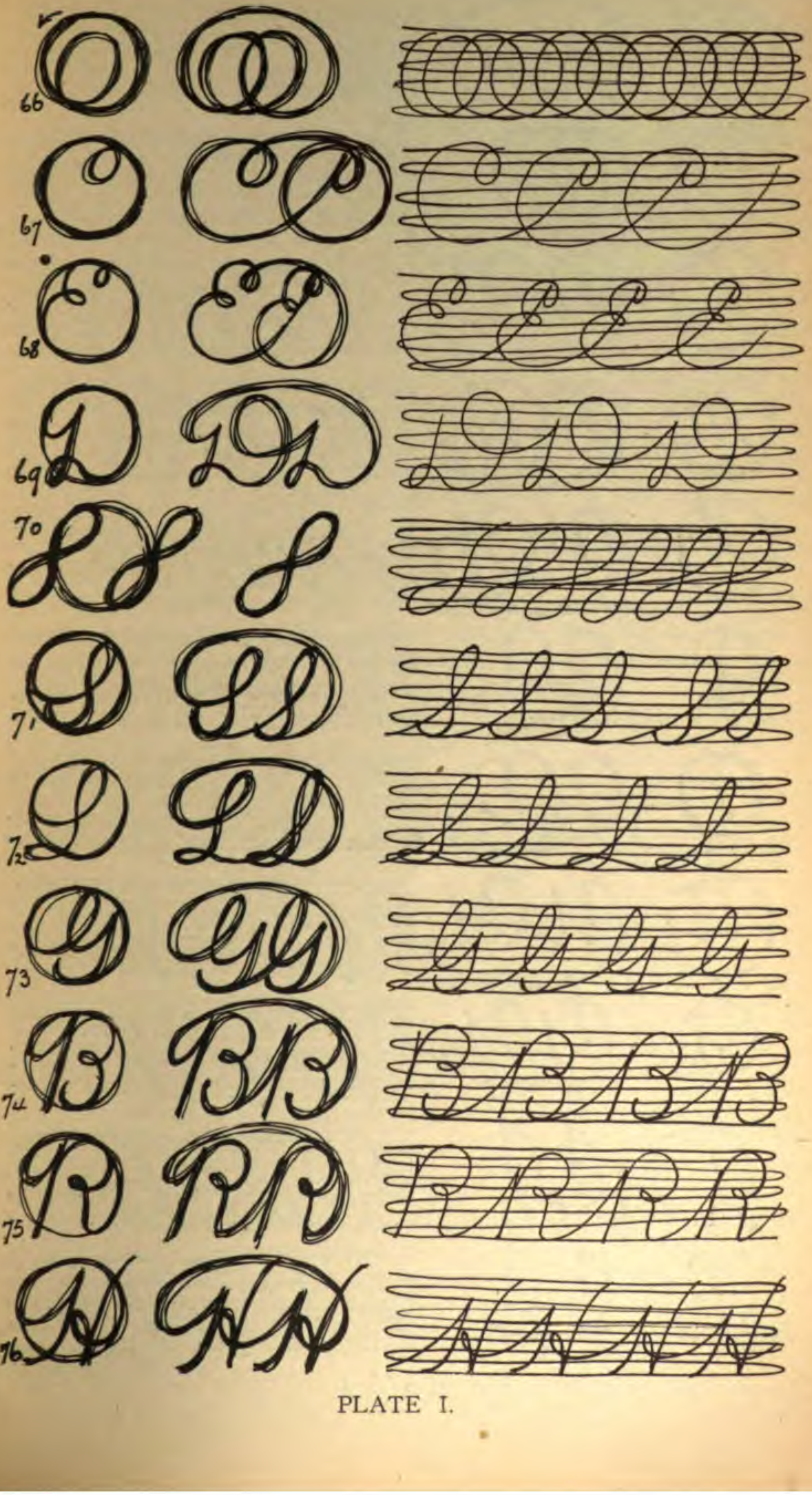


PLATE I.

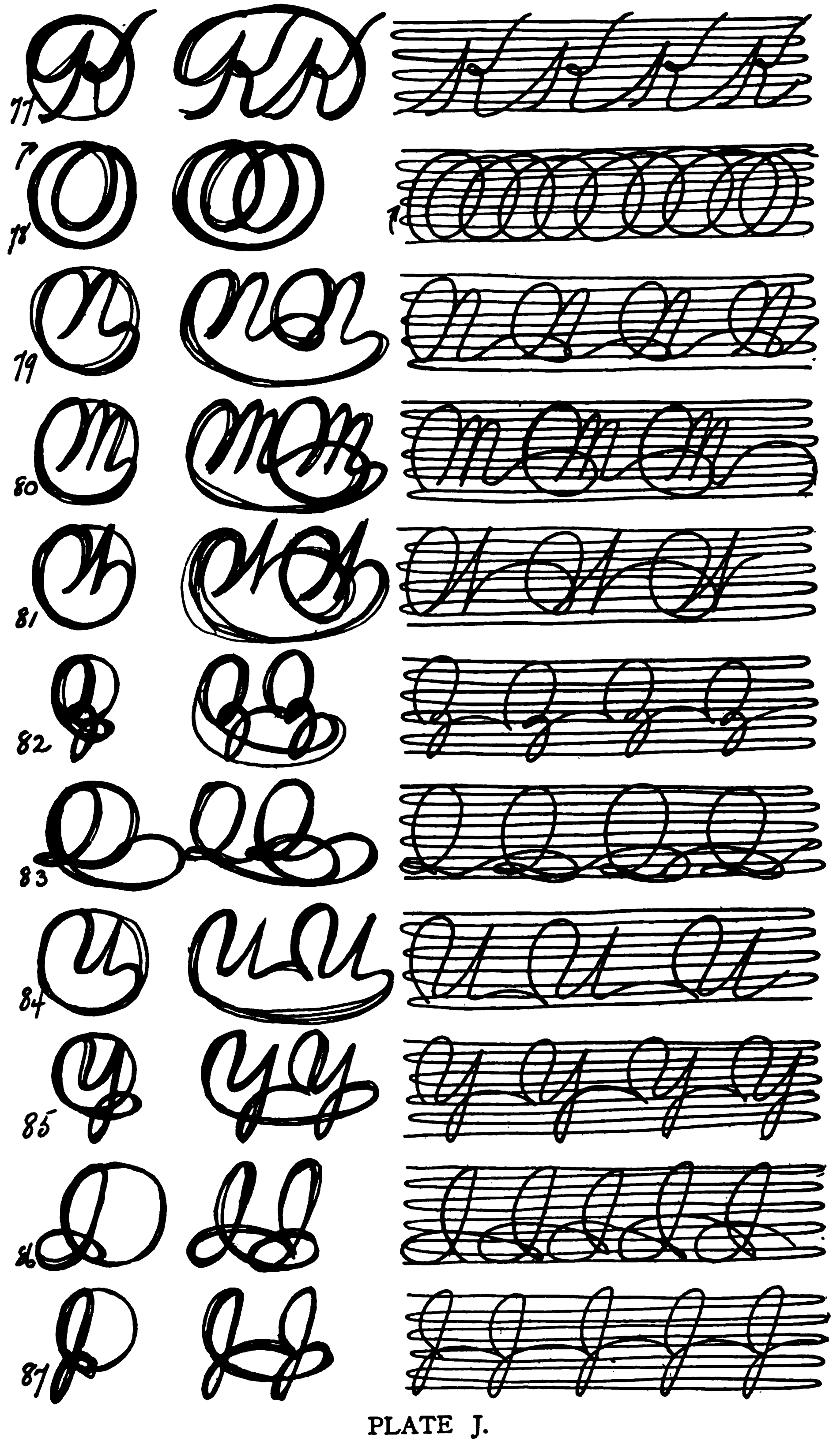


PLATE J.

Ethical Stories for the First Two Years.

By EDITH M. PHEASBY, P. S. 55, Brooklyn.

1A

1. *Bessie's Nickname.* (*Kindness and Cheerfulness.*)—Every one loves little Bess. She is so bright and happy. If any one is sick he always likes to have Bess sit with him. Once she hurt her ankle. She could not go out of doors for a long time. So she sat by the window and smiled at every one who went by. Her mother calls her "Little Sunshine."

2. *Gertrude's Sled.* (*Kindness to the Afflicted.*)—Gertrude went to school so far away she had to ride every day. One day she saw a little lame boy on crutches going to another school near the one she attended. She asked her father to let the little boy ride, too. So he rode every morning. One day they missed him. They heard he was ill. Little Gertrude took him flowers every day. When he was well she invited him to her house to tea. He grew to be a strong boy. He made a sled for Gertrude and painted the word "Kindness" on it. What do you think made him do this?

3. *The Boy and the Robin.* (*Kindness to Animals.*)—Robbie found a young robin out in the orchard. Its wing was broken. Rob took it into the house and gave it some bread and milk. He made a cage for it and kept it until its wing was better. Then he let the robin out, but it was so tame it did not fly away. It stayed around the house all summer, and used to come to Rob for some crumbs every morning.

4. *A Careless Boy.* (*Carelessness.*)—"Where is my hat, mother?" said Jack one morning. "I never can find it."

"I do not know," said his mother.

"Well, mother, how can I go to school without a hat?" asked Jack.

"Oh, my son, you may wear mine; I always know where mine is."

"But I don't want to wear your hat, mother. I would be ashamed to go to school in your hat."

"I suppose you would," answered his mother, "but you should be more ashamed to think you can never find your own."

5. *The Polite Boy.* (*Politeness and Helpfulness.*)—James was going home from school one day with some other little boys. He saw an old woman with a large basket in her hand. James gave her his arm and helped her across the crowded street. The other boys laughed at him and asked how much she paid him for his services.

"Her pleasant smile and grateful 'Thank you' were worth more than money to me," said James.

The boys who laughed at him felt ashamed of themselves and said no more.

6. *Obedience Rewarded.* (*Obedience.*)—A mother goat and a little baby goat lived together in a stable. One day the mother goat had to go out, so she told her little one to lock the door and if any one knocked to look out of the window and see who it was.

A wolf who lived near by saw the mother goat go out. He ran to the stable and knocked.

"Who's there?" asked the baby goat.

"It is your mother," said the wolf. But the little goat ran to the window and looked out. When he saw the wolf he did not unlock the door. As soon as his mother came home he told her all about it.

7. *The Disobedient Fish.* (*Disobedience.*)—"I'm so tired of fish," said a young trout. "I wish I had a worm for my dinner."

"No, no," said his mother; "all the worms we get are fastened to a string, and worse still, a big hook is there, too."

Just then a worm dropped down near the naughty little trout; he grabbed it,—and in a minute was lying on the bank.

8. *The Wasp and the Bee.* (*Work Before Play.*)—A wasp met a bee one day as it was buzzing by, and said, "Little cousin, I wish you would tell me why it is you have so many more friends than I have."

"With pleasure," said the bee, "but just now I am too busy to stop a minute. I must work this morning in the white clover field first."

9. *A Greedy Little Girl.* (*Greediness.*)—A little girl was playing on the grass in front of the house. Suddenly she looked up and spied a glass pitcher full of nuts. The pitcher stood on a little table on the porch.

She ran up the steps to the pitcher, for she loved nuts. She put her hand down into the pitcher and grasped a handful of them; but the nuts made her hand too big to get it out of the pitcher. She pulled and pulled, but she could not get it out.

Her father looked up and saw what she was doing. He said, "If you take one or two at a time it will not be long before you have them all."

"I might have thought of that before," said the little girl.

"Besides," said her father, "it does not look well for any boy or girl to be so greedy."

10. *Lazy Folks Work the Hardest.* (*Industry.*)—One very hot day Harry went for a walk with his father. As they walked along they saw a horse-shoe on the ground. "Pick it up," said Harry's father; "you know it brings good luck." But Harry was lazy and did not like to carry a horseshoe on a hot day, so his father picked it up. Soon they came to a blacksmith's shop. "How much will you give for this horse-shoe?" said Harry's father. "Five cents," said the blacksmith. Harry began to wish he had picked up the horseshoe, for then the five cents would have been his.

As they walked along they saw a little girl with some boxes of cherries. Harry's father bought a box for five cents. He began to eat them. Soon down fell one on the ground. Harry picked it up and ate it. Soon another fell, then another. Harry picked them up. Then Harry's father said, "Don't you wish you had picked up the horse-shoe? If you had, you wouldn't have had twenty cherries to pick up."

1B

1. *Tim and the Pear.* (*Honesty.*) (*In two parts.*) *Part I.*—A big, juicy pear rolled off the fruit stand and lay on the sidewalk. Tim, the bootblack, waited until the man was busy waiting upon a gentleman, then he picked it up. "I will take this pear home to Kitty," he said to himself. "She

will say, 'Oh, Tim, how good you are; where did you get it?' But she will be very sorry when she hears where I got it. I think I must give it back, instead." So Tim walked to the stand and gave it back to the man.

Part II.—As Tim walked away from the stand, the gentleman who had been buying fruit called him back. "I saw you pick up the pear, but why did you wait so long before giving it back?"

"I wanted it for Kitty," said Tim.

"Tell me about Kitty," said the gentleman.

"She is lame, sir. She always wants me to be honest, that is why I remembered the pear wasn't mine."

"I am glad you have such a sister, and I hope you will always be honest." Then he gave Tim some pears and grapes for Kitty.

Of course, Kitty was much pleased with the fruit, but was most pleased because Tim was honest.

2. *The Stranger.* (*Duties to Strangers.*)—One day I looked into the playground where many children were playing and having a good time. Near the fence was a little boy who had just come to school. He looked very sad and lonely, for he didn't know any one to play with. A little boy named Arthur, who had been having a fine time, happened to see the little stranger. He left the other boys and went to the little boy and said, "Wouldn't you like to come and play, too?" And then both boys went away very happy together.

3. *Best Pay.* (*Gentleness and Politeness.*)—A boy once wished to find a place to work. He went to a store where a boy was needed. There were many other boys there before him. He thought he had little chance to get the place and was very much surprised to get it. He said to the storekeeper, "Why, sir, I did not expect to get this place when so many were here before me."

"Do you wish me to tell you why I hired you? You came in quietly, and took off your hat. You gave a chair to an old man and waited patiently for your turn to come. I saw that you were a polite boy."

4. *The Unhappy Boy.* (*Selfishness.*)—Once there was a king who had a little boy whom he loved very much. He gave the boy beautiful rooms, clothes and lots of servants. He gave him a horse and everything a boy likes. But for all that, he was not happy. He wore a frown all the time and was always wishing for something he didn't have. A good fairy came one day and said to the king, "I can make your little boy happy."

So she took the boy into a room and wrote something on a paper. She lighted a candle and gave it to the boy. Then she told him to hold it near the paper and see what he could read.

The boy did as he was told, and read, "Be kind to some one every day." He made use of the secret and became the happiest boy in the country.

5. *Ten Cents' Worth of Kindness.* (*Kindness to the Afflicted.*)—Daisy started for the store to spend ten cents for some candy. She thought of Alice, who was sick, and wished she could have some, too.

Outside the store was a cart filled with pretty plants. "Buy a plant, little girl," said the man; "here is one for ten cents." Daisy thought of poor, sick Alice, and bought one with buds ready to open.

"See what I have brought you," said Daisy. She was very glad when she saw how happy it made the little sick girl, and she never once thought of the candy she had started to buy.

6. *The Smallest Loaf.* (*Honesty and Unselfishness.*)—Mr. Brown was a very rich man. One day he gave a party to some poor children. They had a fine time playing games, and after they had been given some good things to eat they started for home. At the door was a large basket with a loaf of bread for each child. Most of the children forgot their manners and each tried to get the biggest loaf. All but one little girl. She had waited until the last and found only a very, very small loaf remained. She took it and before going home thanked Mr. Brown for his kindness.

When she reached home the first thing her mother did was to cut the bread in half, and what should she see but a bright piece of money. She wrapped the bread up again and sent back the loaf and the money.

Mr. Brown said there had been no mistake, for he had told the baker to put it into the smallest loaf, knowing that it would go to the one who most deserved it. He praised the little girl and also her mother for the honesty shown. The little girl went home very happy.

7. *The Boy and the Sparrows.* (*Street Manners.*)—A boy found a nest of young sparrows and put them into his hat. He then set the hat on his head, thinking no one would know what was under it. As he walked through the streets, instead of lifting his hat to bow to people, he kept it on his head. This made everybody wonder. At last one man said, "Let me see if his hat has grown on his head." He lifted the boy's hat from his head and away flew the sparrows.

Everybody laughed—and now if a boy does not lift his hat when he meets any one, people say, "Maybe he has sparrows under his hat."

8. *The Talking Book.* (*Neatness and Order.*)—One evening a little boy was reading from his reader. Being very tired, he presently fell asleep. He dreamed the book talked to him.

It said, "You ought to take good care of me. Never take hold of me with dirty hands. Please don't leave me out in the rain. Don't make marks on me, it spoils my looks. Please don't open me and lay me face downward on the table. Close me when you are through with me and lay me on my side."

When this little boy awoke he remembered what his reader had said.

9. *Robbing Birds' Nests.* (*Kindness to Animals.*)—Ralph and his three sisters saw a bird's nest in a tree. They all wanted to know what was in the nest. Ralph climbed the tree and saw four little eggs in the nest. He thought he would show the eggs to his sisters. He put one in his hat. The poor mother bird cried out loud. The little girls begged him not to rob the nest, so Ralph put the egg back again. Then he put his hat on his head and climbed down. The poor bird cried until the children were quite out of sight. Ralph and his sisters were sorry he had frightened the pretty bird.

10. *The Cheerful Candle.* (*Cheerfulness and Unselfishness.*) *Part I.*—Two white candles were in a box with some colored candles. They began to talk together. One little white candle said, "I suppose when we are put on the Christmas tree with these other pretty candles no one will care to look at us. Maybe we'll be put at the back of the tree. If I'm put there I won't shine at all."

"Why, how naughy you are," answered the other white candle. "I don't care where they put me, I'm going to shine as bright as I can for the children."

Part II.—Soon a gentleman came into the store and bought the box of candles. He took it to a hall where there was a Christmas tree. The two white candles were put at the back of the tree. When the candles were lit, one little white candle tried to go out, but it could not; the other shone its very best. "Oh, see!" said a little girl, "this white candle shines brighter than any other candle on the tree."

" So it does," said the gentleman; "let's put it at the top of the tree. It is such a cheerful little candle it looks like a star shining." So the little white candle had the best place on the tree because it tried to do its best.

2A

1. *Sammy's Disobedience.* (*Duty to Parents.*)—Sammy and Dick were brothers. You would have loved Sammy had you known him. He was such a kind, gentle little fellow you could not have helped it.

A railroad had been built through the town on a level with the street. The children were wild with delight. There was nothing to keep the children out of danger but the watchfulness of their parents.

One day the little boys' parents had to go out, and their sister was told to mind the little ones. She had to watch the baby, too; so she soon forgot about the boys. However, they had been warned to keep away from the railroad tracks.

The track was but a short distance from the house, and soon the children were playing near it. Sammy spied a milk car and was eager to see what was inside. The other boys asked if he were not afraid.

"Of course not," cried Sammy, "no train is in sight. What can hurt us? There won't be a train here for ever so long, and we'll only stay here a little while."

Soon the children were playing tag and did not hear the train coming to take the milk car. When they saw it, they rushed out in wild haste. All got away but Sammy, and in his fright he fell beneath the car. The dreadful wheels ran over one of his legs, and the poor little fellow had to have it cut off. When his leg was well, school opened, and Sammy had to use a crutch in order to get there. It was a sad sight to see this boy, once so bright and strong, now pale and crippled.

He had never been late or absent, but now he was not always well enough to go, and sometimes he went so slowly with his crutch that he was late. His playmates began to neglect him, because he was not the jolly companion he used to be.

He is a grown man now, and although he does not feel the loss of his leg as much as he did when a child, his disobedience has darkened his whole life.

2. *Which was the Gentleman?* (*Duties to Playmates.*)—Master Frank went to the picnic, and so did Jimmy Bell. Frank's father was a rich man; Jimmy's was a day laborer. Frank wore handsome new clothes, and Jimmy's knees and elbows were patched, his hat was torn and he had no shoes.

There was only one barrel of ice water, and as it was a hot day, there was a crowd around the barrel most of the time. A half-dozen girls had just come to get a drink, when Frank, at the head of a file of boys, came running up, and snatching the cup rudely began to drink.

"Shame on you, Frank!" cried one of the girls. "Don't you know you ought always to let girls drink first?"

"I don't know that girls are any better than I am," said Frank, as he started off again.

Not long after Jimmy and some other boys came up to the barrel, and shy little Minnie came also.

"Wait, boys," said Jimmy, dipping out a cup of water. "Let Minnie drink first." And he very politely handed her the cup. Minnie drank the water and thanked the boy as she handed the cup back.

To do to others as I would
  That they should do to me
Will make me honest, kind and good,
  As children ought to be.

3. *The Old Man and the Bundles.* (*Duty to the Aged.*)—An aged man was passing along one of our streets with a heavy load on his shoulder, when he dropped a bundle. It rolled off the sidewalk into the gutter.

Two or three young men standing near laughed at his misfortune and offered no help. An elegantly dressed lady passing, quietly stepped into the street and picked up the bundle, which she handed to the old man. In trying to thank her his hat fell off, and it rolled into the gutter, too. She stepped into the street, picked up his hat and handed it to him.

"God bless you," said he, and the old man was made happier. The young men received a lesson which may make them happier if they but make use of it.

Be kind and be gentle
  To those who are old
For dearer is kindness
  And better than gold.

4. *The First Woodpecker.* (*Selfishness.*)—Long ago, when the fairies were on the earth, one of them went around among the people doing good. To keep people from knowing what he was, the fairy dressed himself to look like an old man.

One day, just at dark, he came to a cottage and stopped to rest. He had had a long day and was very cold, tired and hungry.

In the cottage he found a woman making cakes and baking them before the fire. This woman was well dressed and had a pretty red cap on her head.

"Good woman," said the fairy, "may I enter your cottage and rest? My day has been long and hard, I am cold, tired and hungry."

The woman looked up from the cakes when he spoke. She thought he was some poor, old man and only nodded her head. The fairy came in and the woman kept on baking her cakes.

After awhile the visitor spoke again. "My good woman, will you give me one of your cakes? I am so hungry."

The woman made a small cake and put it down to bake. When it was done she thought it was too large to give away. So she made a smaller one, but this was also too large to give away.

Then the fairy grew angry and said, "You shall be a woman no longer, and you will have to bore for what you eat." He spoke and the woman was gone. But there before the fire was a woodpecker with a red cap on its head. The red cap was all that was left of the woman.

That was the first woodpecker, and from that day to this the woodpecker bores and bores for all he gets to eat.

5. *George Washington and His Hatchet.* (*Honesty and Truthfulness.*)—When George Washington was quite a little boy, his father gave him a hatchet. It was bright and new and George took great delight in going about and chopping things with it.

He ran into the garden, and there he saw a tree which seemed to say to him, "Come and cut me down."

George had often seen his father's men chop down the great trees in the forest, and he thought it would be fine sport to see this tree fall with a crash to the ground. So he set to work with his hatchet, and as the tree was a very small one, it did not take long to lay it low.

Soon after that his father came home. "Who has been cutting my fine young cherry tree?" he cried. "It was the only tree of its kind in the country, and it cost me a great deal of money."

He was very angry when he came into the house. "If I only knew who killed that tree," said he, "I would,—yes, I would,——"

"Father," cried little George, "I will tell you the truth about it. I chopped the tree down with my hatchet."

His father forgot his anger.

"George," he said, as he took the little fellow in his arms, "George, I am glad you told me the truth about it. I would rather lose a dozen cherry trees than that you should tell one falsehood."

6. *The Little Red Hen.* (*Industry.*)—A little red hen found a grain of wheat. She said, "Who will plant this wheat?" The cat said, "I won't." The dog said, "I won't," and the little pig said, "I won't." The little red hen said, "I will," and she did.

When the wheat had grown, she said, "Who will take this wheat to the mill to have it made into flour?"

The cat said, "I won't," the dog said, "I won't," and the little pig said, "I won't." The little red hen said, "I will," and she did.

When the wheat was ground into flour, the little red hen said, "Who will make this flour into bread?" The cat said, "I won't," the dog said, "I won't," and the little pig said, "I won't." The little red hen said, "I will, then," and she did.

When the bread was made, the little red hen said, "Who will eat this bread?" The cat said, "I will," the dog said, "I will," and the little pig said, "I will."

The little red hen said, "No, you won't, for I am going to do that myself," and she did.

7. *John and His Baby Sister.* (*Punctuality.*)—A little boy's mother went to the store while he was eating his dinner. She had to go then, as John could mind the baby while she was away.

The mother was kept longer than she thought, and John was getting anxious, as it was almost time for school.

He took his baby sister and put a shawl over her head, then ran all the way to school. He arrived in school just as the bell rang. The children all looked at John.

John's teacher told him he was a thoughtful little boy.

8. *A Little Girl and Her Hat.* (*Order.*)—There was once a little girl who came to our house. She always put her hat wherever she happened to be playing. When she was ready to go home, she never could find it. So her mother would always let her stay over night.

One day her mother was very angry at her for not knowing where her hat was, and said she must go home without a hat. She cried, but had to go without a hat.

The next morning we found the hat in the back of our yard. After that, the little girl always put her hat in one place.

It is always best to have a place for everything, and put everything in its place.

9. *Little Jack and the Snowballs.* (*Street Manners.*)—One cold winter afternoon in December a crowd of children were playing in the snow. Just then a man came along the street. One little boy named Jack said, "Oh, see that man! Let us hit him with a snowball."

Then each child quickly made one. Jack had his ready first, and so threw it at the man. Instead of hitting him, it smashed a window in his own house.

Jack's mother called him and said, "I saw how you acted on the street, so I am going to write to Santa Claus and tell him not to bring you a Christmas tree."

When Christmas came, poor Jack had no tree because he had been a naughty boy. Since then Jack has been more careful how he acted in the street.

10. *In a Minute.* (*Procrastination.*)—Little Mary had one bad habit. If you asked her to do anything, she was sure to say, "In a minute."

If her mother said, "Mary, please shut the door," she would say, "Yes, mother, in a minute." Even if her father called her to bring his newspaper, it was just the same. She never did anything at once.

One day Mary's little canary was flying around the room. Some one went out and left the door open.

Mary's mother said, "Shut the door, my dear."

"Yes, mother, in a minute," said Mary. "I just want to finish reading this story."

But the cat did not wait. In she came with a bound, and soon had Mary's bird in her mouth.

Down went the book and away went Mary after the cat. Soon she came back crying with the little dead bird in her hand.

Her mother felt very sorry, but she only said, "My dear little girl, you see a great many things may happen in a minute. I hope you will be more careful now."

It was a sad lesson for Mary, but one she did not forget.

2B

1. *Rover and the Bags of Gold.* (*Faithfulness.*)—Rover was a spaniel with long, silken ears. He went everywhere with his master and could run on errands as well as a boy.

One day Rover and his master set out on a journey through the woods. His master rode on a horse and across the saddle he placed two heavy bags of gold. After awhile the man grew tired, so he tied the horse to a tree, and placed the gold upon the ground. "Watch these bags, Rover," said he, "I want to sleep awhile." Rover laid his nose on one of the bags and pricked up his ears to hear every sound. When he thought his master had slept long enough, he licked his face and woke him up.

The man got on his horse and rode swiftly away. But Rover acted strangely. He barked, snapped at the horse and even tried to bite his master's shoe. Thinking that the dog had gone mad, the man shot him. The poor animal fell, but rose again and ran back up the road. After awhile the man felt for his bags of gold. They were not there. He galloped back quickly, looking all along the road until at last he came to the place where he had slept. There he saw poor Rover, almost dead, with his nose resting upon a bag of gold. The faithful dog had obeyed orders at the risk of his life. After that Rover was tenderly cared for and lived to a good old age.

2. *The Boy Who Cried "Wolf."* (*Truth and Untruth.*)—A little boy took care of some sheep. Not far away some men were at work in the fields. They told the boy to cry for help if a wolf came after the sheep.

The boy thought he would have some fun, so he called, "Help, help, the wolf is here!" The men left their work and came running as fast as they could. The boy only laughed and said that he had called for fun. Not long after he called again. The men came, but when they found the boy was only calling for fun, they were quite angry.

At last the wolf did come. The boy called and called, but nobody came to help him. So the wolf killed all the sheep.

3. *A Kind Boy.* (*Generosity.*)—A ragged little boy sat on a door-step eating a slice of bread. He must have been very hungry, for he took great bites. He had only started his meal when a little dog came along. The dog sat down beside the boy and whined softly.

"What do you want?" asked the boy. The dog looked up at the bread and whined louder.

"This isn't a bone; go away," said the boy, but he didn't speak in a cross way, so the dog stayed. He put his head on the boy's knee and kept on whining.

"Do you want this worse than I do?" asked the boy, holding out the bread. At this the dog gave a quick bark, so the boy threw him the rest of the bread.

4. *How Patty Gave Thanks.* (*Gratitude.*)—Ah! how snug it was in the barn that cold December night. Farmer Gray shut all the doors and then went away, glad to think that all the animals were comfortable. When he had gone the cow gave a faint bellow and said, "Something beautiful happened to-day. Little Patty came and said to me, 'I came to say thank you for the milk you gave me.' Then the child put a large apple in my mouth."

Then the horse said, "Little Patty came and thanked me for all the rides I gave her. Then she gave me some fresh hay."

"So little Patty went to you, too," said a sheep. "She gave the flock, including myself, some extra salt this morning, and said, 'Thank you for all the warm clothes you made me.'"

Patty thanked the chickens for the eggs they gave her.

This little girl made the day a real "thank you" day.

The cows, horses, sheep, chickens and little Patty were very happy when they went to sleep on "thank you" night.

5. *The Little Light.* (*Pride.*)—A little light was very much in love with itself. It thought it was as bright as the sun, moon and stars. Again and again it had said this to the other lights.

One night a man heard it say this as he came into the house. Just back of him the wind came in and out went the little light.

On lighting it again the man said, "Say no more. The lights of Heaven never go out. No one has to light them."

6. *The Star Dollars.* (*Kindness Rewarded.*)—There was once a poor little girl who had neither father nor mother. She had no home, in fact, nothing but the clothes she wore. With only a piece of bread in her hand she wandered into the country.

She met a poor man, who asked for something to eat. She gave him the bread. Then she met a child, crying because his head was cold. She took off her hood and tied in on the child's head. She met another child who had no coat, so she gave it her own jacket. As she stood there in the dark, with hardly any clothing, something fell from the sky like stars.

She picked them up. They were gold dollars. She went back to the village and was happy the rest of her life.

7. *The Girl Who Wanted to Be a Kitten.* (*Indolence.*)—Little Nell did not like to learn her lessons. She said, "I wish I were a kitten, because kittens do not have to learn lessons."

"Well," said her mother, "you may be a kitten if you like, but if you play like a kitten you must live like a kitten."

Nell clapped her hands and said, "How happy I shall be to-day." So she went into the garden to play, and at dinner time came in quite hungry and dirty.

Her mother cried out, "Go away, dirty little kitten."

She found no plate on the table for her, as her mother said cats and kittens were fed in the kitchen.

The cook put a cup of milk on the floor for her. After a while she gave Nell a slice of bread, saying, "Here kitten, you may eat this with your milk."

In the afternoon her mother started to get ready to go out. "May I go, too?" asked Nell.

"Oh, no," said her mother, "I never take kittens out with me."

When her mother returned, Nell said, "I do not want to be a kitten any longer, mother. I think I would rather study my lessons."

8. *The Bird Charmer.* (*Kindness to Animals.*)—James and Lucy were walking in the fields. They saw a man a long way off. When they came near him they saw a strange sight.

A great many birds were about him, some were on his shoulders, some on his head and others on his hands. They ate crumbs of bread from his mouth and flew around him and seemed to kiss him. Lucy looked at the man and said, "The dear little birds seem to know and love you well. How do you make them so tame?"

"I am kind to them, that is all," replied the man. "They know I would not hurt them for the world."

As the children went on their way they still saw the birds on the man's head, shoulders and hands. Little James said, "How like a king he looks with a crown of birds about his head."

It is better to rule by love than fear.

9. *The Sixpence.* (*Honesty.*)—"What have you there, Henry?" asked little Ben.

"Oh, it is a sixpence!" answered Henry. "I found it in this corner."

"So it is," said Ben. "You must divide it with me, for I was with you when you found it. One of the boys must have lost it this morning."

"No, Ben, it is not mine. If I did find it, that does not make it belong to me."

"What are you going to do with it, then?" asked Ben.

"As soon as the teacher comes I'll give it to her and asked her to find out to whom it belongs."

A little later the teacher came in and she soon found the owner of the sixpence. It belonged to a little boy whose father had given it to him for learning his lessons well.

Harry felt much happier now than when he had the sixpence in his pocket.

10. *The Girl in the Brook.* (*Prompt Obedience.*)—One day Mary and her mother crossed the little stream that came from the pond. The stones and sand were white and smooth.

"May I play in the water, mother?" asked Mary.

"Yes, if you turn your dress up so that it will not get wet," said her mother.

By and by there was a noise like thunder. It seemed to come from the pond.

"Quick, Mary, come here," cried her mother.

Mary did not stop to ask why. She ran to the place where her mother stood. Then she looked back. The stream was pouring over the rocks. The great water gate by the dam was open.

If she had waited she would have been carried down the stream into the river.

There is not always time to ask why.

Teaching Hiawatha to a 3A Class

By Rhoads Doyle, P. S. 4, Manhattan.

OUR endeavor has not been merely to teach the poem, but rather to make Hiawatha live again; and perhaps only those who with ourselves, for almost an entire term, have been companions in fancy of the little Indian brave and his friends, can say how successful we have been in our efforts. We "whose hearts are fresh and simple," have drawn inspiration and pleasure from

"These legends and traditions,
With the odors of the forest,
With the dew and damp of meadows,
With the curling smoke of wigwams,
With the rushing of great rivers."

The actual reading of the poem was preceded by a study of Indian life on broad, general lines. Much of the material brought to the children to illustrate these talks was home-made, as the miniature wigwam, the cradle with a tiny pappoose nestled among its blankets, the wee bow and arrow and the little canoe. A collection of large portraits of Indian braves, squaws, and children, was made from the Colored Prints of the Perry Pictures Company; and numbers 1342 and 1343, photographs of Indian encampments, were selected from among Pictures Historical and Geographical of the same publishers. The collection was gradually enlarged by valuable contributions from the children,—valuable because they expressed an active interest on the part of the children. In Charles Eastman's "Indian Boyhood" one finds a delightful little book, and much that is conducive to the culture of that spirit with which a teacher should be imbued before approaching with a class the study of Indian life.

First we became familiar, through our colored prints, with the Indian's physiognomy and general appearance. A closer scrutiny was made of his dress with all its accessories,—the feathers, moccasins, blankets; and attention was called to his love of decoration and bright color. The bow and arrow were examined and their use in warfare and the hunt explained. *Indians engaged in the pursuit of game as a means of securing food.*

Interest reached its greatest height at the appearance of the wigwam; and here the children assisted in a description of the construction of a real wigwam. Ours in miniature began with a small, square piece of board covered with moss, dried grass and bits of bark, which served as the forest clearing. Smooth, straight twigs nailed through their bent ends to the board and fastened where they crossed one another, made the framework that gave shape and support to the skin covering. Drawing paper treated with water-colors assumed the tones of dried skins, and the outside was properly ornamented with the *totem* of the inmates of that particular wigwam. We explained the use of the smoke hole and the flap that closes it at night. Beside the wigwam were erected the poles across which were hung to dry the skins of animals that had fallen by the Indian's arrow. When the children had each constructed a wigwam along somewhat simpler lines, they turned back to the flaps at the entrance and looking within, fancied the camp-fire around which the Indians gathered on a winter's night to smoke their pipes and tell stories.

The wee, brown baby strapped to his straight little cradle board and swinging from a branch projecting from the wall, found his way to our hearts at once. Although only a mite of a few inches length, his cradle was constructed on the same lines as a real one would be. He was tucked into a red blanket and to secure his safety the reindeer skin (a piece of red skin) was laced down the front with strips of skin. It was all profusely decorated with colored beads and fringe,—"because the Indian loves his baby." A strap was adjusted at the top and he happy and unprotesting was swung from a bough while his mother, the squaw, busied herself grinding corn or fetching water. Meanwhile, the children never tired of speculating why that pappoose was happy; for happy he certainly must have been with the green boughs and singing birds above him.

In the evening, when the squaw sat down to weave her baskets and to rest she sang this lullaby* to the little pappoose:

Little brown baby-bird, lapped in your nest,
Wrapped in your nest,
Strapped in your nest,
Your straight little cradle-board rocks you to rest;
Its hands are your nest,
Its bands are your nest,
It swings from the down-bending branch of the oak;
You watch the camp flame and the curling gray smoke;
But, oh, for your pretty black eyes, sleep is best.
Little brown baby of mine, go to rest.

Little brown baby bird swinging to sleep,
Winging to sleep,
Singing to sleep,
Your wonder black eyes that so wide open keep,
Shielding their sleep,
Unyielding to sleep,
The heron is coming, the plover is still,
The night-owl calls from his haunt on the hill,
Afar the fox barks, afar the stars peep;
Little brown baby of mine, go to sleep.

Anyone, in the least resourceful can enlarge this list by adding to the articles already devised, a quiver, moccasins, specimens of basketry, snowshoes, and a birch-bark canoe.

Having proceeded so far the children have become sufficiently familiar with Indian life to be able to appreciate the references made to it in the poem. But one may go farther and explain the Indian's method of estimating wealth, and his method of communication with other Indians. Attention should be directed to the fact that the Indian had few tools and performed

*LULLABY OF THE IROQUOIS, by E. Pauline Jonnson, in "Songs of Tree-Top and Meadow."

most of his work by hand. Yet, one should not fancy that civilization can claim all the advantage. Recall the Indian's intimate knowledge of the life in the wildwood. Why was such knowledge easily acquired by the Indian?

To insure interest in the poem at the outset begin with "Hiawatha's Childhood"; do not read "The Peace-pipe" or "The Four Winds," which would be tedious to 3A children. The story of the dandelion and Shawondasee to be found near the end of "The Four Winds," may be told at another time as a nature myth. Begin the reading at, "By the Shores of Gitche Gumee." In the nine or ten lines that follow is given the setting for most of the scenes in "The Childhood."

To assist the word picture reproduce the scene on a large tray filled with sand. Imbed a piece of looking glass in the sand to represent Gitche Gumee; and erect bits of evergreen in the sand for "the black and gloomy pine-trees." On the clearing between the forest and the water's edge, erect the single wigwam of Nokomis or an Indian village. Canoes may sometimes be seen gliding across the Big-Sea-Water.

The teacher with only small skill in blackboard illustration can make the word pictures more vivid by chalk pictures on her boards, presented as the reading progresses. The first may represent this scene. We proceed:

"There the wrinkled, old Nokomis
Nursed the little Hiawatha,
Rocked him in his linden cradle."

We renew acquaintance with "the little brown baby bird." Until now he has been merely representative of pappooses in general; but now he has become for us a particular pappoose,—he is Hiawatha. We examine the cradle and find it correct in all details,—

"Bedded soft in moss and rushes,
Safely bound with reindeer sinews."

The cradle suggests another lesson in construction and may be entirely worked out in tinted paper.

When Hiawatha grows out of babyhood he is eager to know more about the wonders that surround him. Nokomis, who has been his nurse, now becomes his teacher. When he asks about the stars she tells him fanciful stories about them. She tells him stories about the comet, the milky-way, the moon, the rainbow; teaches him a little song to sing to *wah-wah-taysee*; laughs away his childish fears when he hears the hooting of the owls.

Let us return to the matter of blackboard illustration. The sky, lights and shadows in the picture already treated, are easily transformed in order that at one time the stars and "Ishkoodah with fiery tresses" may appear in the sky, at another, the rainbow, and that later we may see "the moon rise from the water."

What were the little Indian boy's pastimes on a summer evening? He listened to the wind in the pines and the lapping of the water. They spoke to him in language he understood,—"Minnewawa!" "Mudway-aushka!"

One also finds in The Hiawatha Primer, "Wah-wah-taysee, little firefly!" set to music,

> "When he heard the owls at midnight,
> Hooting, laughing in the forest,"

which suggests for illustration, these night-fowls silhouetted against a moonlit sky.

Now Hiawatha wanders into the forest and discovers many things for himself. He learns the language of the birds; and the timid beasts have so little fear of him that they tell him all their secrets.

But even little Indian boys may not play and dream all the time. So it is time Hiawatha learned to do some of the things men can do. Iagoo, the traveler and the boaster, who knows more marvelous stories than Nokomis herself, makes a bow for our Hiawatha. He makes it, for a boy of twelve (Hiawatha must be about twelve) cannot string the bow of a grown man. So he takes his bow and arrow and goes forth to shoot the red deer. Proud of the distinction of being sent to shoot the roebuck and heedless of all else he does not hear the calls of his friends, the Opechee, the Owaissa, Adjidaumo, and the rabbit.

The intense interest manifested by the children throughout the reading of the poem, reached its climax in the hunting scene. By Hiawatha's side we walked in fancy; when he hid within the alders, there *we* waited for the roebuck,

> "And a deer came down the pathway,
> Flecked with leafy light and shadow."

Oh, the breathless suspense, when

> "Upon one knee uprising,
> Hiawatha aimed an arrow;
> Scarce a twig moved with his motion,
> Scarce a leaf was stirred or rustled,
> But the wary roebuck started,
> Stamped with all his hoofs together,
> Listened with one foot uplifted,
> Leaped as if to meet the arrow;
> Oh! the singing, fatal arrow,
> Like a wasp it buzzed and stung him!"

Now fancy the exultation of that little Indian boy when he bore the red deer homeward, and the joy of Iagoo and Nokomis. Now picture the feast Nokomis prepared in his honor. The guests gathered in a circle around the fire over which the red deer's flesh was cooking. They probably related incidents from their own experiences in the hunt and interrupted these tales to praise again the little hero of the occasion or to urge him to perform still greater feats.

We could not choose a more seasonable time for the reading of "Hiawatha's Fasting" than the early spring when we are watching for "the small, green feather of Mondamin."

Children always enjoy "Hiawatha's Sailing," especially when they can see and handle a wee canoe made of pieces of the birch-tree's "white-skin wrapper." Let them test the "lightness of the birch-tree," "the toughness of the cedar" and "the larch's supple sinews." They follow the building of the canoe until it is ready to float on the river

> "Like a yellow leaf in autumn,
> Like a yellow water-lily."

This little boat is often the darling of the red man and he who is happy in his few possessions makes this beautiful with decoration as he does his wigwam and his pappoose's cradle.

One of the many evidences of the children's lively interest in the poem, was their bringing to the class, without suggestion from the teacher, articles manufactured at home, as wigwams, cradles, bows and arrows and canoes, the last always proudly bearing a star upon their bosom.

A large piece of red cardboard was used as a background for the pictures and other material. To the things already specified we added bits of birch-bark, pine needles, fir cones, an ear of corn with its gleaming kernels, and a dried corn-stalk; and of the Perry pictures, numbers 553, On the Alert; 903, Piper and Nutcrackers; 918, The Sanctuary. Other pictures of deer may be chosen from among those by Landseer. Children contributed pictures of birds, rabbits, and beavers.

In order that every child might be able to repeat a few passages, since it was deemed too much to expect every child to know all of Hiawatha's childhood, the class was divided into sections and a certain number of lines assigned to each section. When we desired to hear the poem recited, the sections were called upon according to the sequence of the passages memorized.

When we were fairly launched upon the study of the poem, we made the acquaintance of the poet and hung Longfellow's picture near the chart. Since then Longfellow has been sharing the homage the children love to pay to Robert Louis Stevenson and Hans Andersen.

A very natural outcome of the reading of "The Song of Hiawatha" was its dramatization. During the happy hours spent in its preparation and later in its many presentations when everybody lived her part, we came into more intimate relations with one another and acquired a better understanding of one another's powers than we ever could have during the daily routine. It was then that Longfellow's beautiful lines became our very own.

Our little drama consisted of five acts, "Hiawatha's Childhood," "Hiawatha's Hunting," "Hiawatha's Sailing," "Hiawatha and the Arrow Maker," and "The Departure of Hiawatha." The scenery was crude and the costumes perhaps not correct in every detail, but the enthusiasm with which each actor presented her part was only equaled by the appreciation of the audience. Those who made the little play a success were Hiawatha, Nokomis, Iagoo, the Arrow-Maker, Minnehaha, Kwasind and Chibiabos.

Perhaps some interest lies in the fact that the poem was read and the play presented by two 3A classes of little girls who with their teachers worked as one class in harmony. The power of eloquence must be ours before we could describe all that Hiawatha means to those little girls now. But perhaps we have succeeded in a small way, in showing how the reading of this poem may be made a true appreciation of its beautiful imagery and soothing rhythm.

Lesson on the Wild Carrot—3B.

By Edith B. Brainerd, P. S. 141, Brooklyn.

Suggestions for a Nature Lesson.—Wild Carrot.

In the Course of Study it is stated that the aim of nature study is to cultivate a sympathetic acquaintance with nature and to develop the power of observation.

It is our aim in the observation and study of the wild carrot, to awaken a love for our common wayside plants.

Let the children tell the flowers they have seen from the car, or while out walking in the country. Show the wild carrot plant and blossoms and try to lead the children to think of them as living things.

Have them look at the root. Ask them if they have ever seen anything in the grocery store that looks like it. Very likely they will tell you that it looks like a carrot. Do you know the name of this plant? Yes, it is a kind of carrot. Where do the carrots we eat come from? Do you think this one is grown in the garden? No, we find it everywhere in the country growing wild. Because it does grow wild, what do you think would be a good name for it? It is called Wild Carrot, and some people believed that many, many years ago, the garden carrot was raised from this wild carrot.

This plant has several names. We have seen that it gets one of its names from the root. Let us look at the pretty flowers. (Show those that are fresh and delicate.) Perhaps we can find out another one of its names. Would you like to have a dress trimmed with these flowers? What do they look like? I think their lacy appearance will be noticed. What would be a good name for a plant so lacy-looking? They may say "lace plant" or "white lace." Tell them it has been given a name something like that; it is called Queen Anne's Lace.

It has still another name. We have seen that when the flowers are fresh, they have a lacy appearance. Here are some of the flowers that have been out for some time. Do they look like the others? (Show the older flowers and the fruit.) What does it make you think of? It is sometimes called Bird's Nest. It is said that spiders sometimes make use of this ready-made home.

This plant we have seen has three names. Why is it called Wild Carrot? Why Queen Anne's Lace? Why Bird's Nest?

After this general introduction, have the parts named, and take up the study of each plant.

The root, they have seen, is like a small carrot.

Look at the stem. Compare it with the stem of the pansy or some other flower they have seen. What kind of stem has it? They see that the stem is long and slender with stiff hairs. What do you think is the use of these hairs? The children may not be able to answer this question at once. If they are not, ask them if the flowers have anything sweet to give to the insects that come to visit them. Tell them that this sweet flower juice or nectar is secreted in open disks near to one another, so that the shortest-tongued insects can lick it up easily. But this nectar is not intended for every little creature that comes along. It is intended for flies, bees, wasps, and beetles. Are there any little creatures on the ground that might like some of this sweet juice? The flower does not want these little ants to have it. In this way the children are led to see the use of these stiff hairs. Some day we will learn why the plant does not want the little ants to reach the flowers and lick up the juice.

The leaves are observed next, and the children describe them. They are seen to be finely cut, resembling feathers. It is said that the ladies during the reign of Queen Elizabeth wore carrot leaves in their hair in place of feathers.

The lacy flowers which are so conspicuous in summer as we ride through the country, are studied a little more closely. The children look at the flowers and tell how they grow on the stem. They see that many small white flowers grow together in a circular flat-topped cluster. Ask the children to look carefully at one little flower and tell what they can about it. It is five-parted. Ask where the larger flowers are found. Why are the larger ones found around the edge? What do you notice about the central floret? It is often dark red, purple, or black. Just why this flower is dark is not clearly understood. Suggest to the children that it would be a good plan for them to study it in the fields during the summer and see what they can discover in regard to it.

In what kind of soil do we find the wild carrot growing? Where have you seen it? Was the soil wet or dry? What time of year shall we look for the blossoms of the wild carrot? It makes our fields and roadsides beautiful from June to October.

Some people who do not look at it closely do not like it. Why does the farmer call it a pest? The flies and bees are always glad to see its white banners waving in the breeze. Why do they like it? Many people admire it very much and love to study it because it is so beautiful. We are not the only ones who have cared for the wild carrot. The ancients, that is, people who lived hundreds of years ago, saw how beautiful this plant was, and they carried it with them from country to country. It was carried from one country to Rome, then to Holland, from Holland to England, and finally brought to America.

This lesson might be followed by an oral or written English lesson, the children impersonating the plant in the different stages of its development, and describing them. For instance, one child may say: "I am a plant with many little flowers. They are white and grow together in a cluster. They look very much like lace. My leaves are finely cut. I grow all along the roadside and in dry fields. What is my name?" Another child may impersonate the root; another the nest-like form.

Have the flowers drawn.

Reading the Pied Piper of Hamelin to a 4A Class.

By Rhoads Doyle, P. S. 4, Manhattan.

THERE is a realm so far removed from the din and bustle of a sordid world that no low hum as from a distant, ever wakeful city, ever reaches the ears of those that dwell therein; although, at times, there are wafted afar from its bourne sweet, heavenly echoes that touch a responsive chord in simple hearts. It is the delectable land, and no one ever found his way thither who was not pure in heart and would not choose fancy for his guide. Although it is "a joyous land, joining the town and just at hand," yet there are many who do not even know of its existence. These sit among the fat burghers of Hamelin, counting their gains and never dreaming what they have missed. But there are always a few who can hear the Piper's music and understand and these pass beyond the gate. It was such as these that reached the joyous land.

> "Where waters gushed and fruit-trees grew,
> And flowers put forth a fairer hue,
> And everything was strange and new;
> The sparrows were brighter than peacocks here,
> And their dogs outran our fallow deer,
> And honey bees had lost their stings,
> And horses were born with eagles' wings."

Quite obvious is the moral Browning draws at the close of his poem, so obvious that those who run may read; but those who will may see a deeper meaning in this legend.

Browning has dressed anew a story of the fourteenth century, dealing with a wandering piper whose quaint attire gained for him the name of *Bunting*, and whose mysterious power was partly credited by the chroniclers of his own time and disputed by the writers of later years. The story is not German in origin but is found in the folk-lore of China, Persia, and India. But what worlds away is the poetic creation of Browning from the vulgar *Bunting*.

Yet had it not been for a fortunate accident the world might never have enjoyed this delightful poem. Immortal favorite that it has since become with children of all ages, it was intended at first only for the amusement of one little boy. Little Master Macready, son of the famous actor, while ill in bed, begged Browning, who was his father's friend, to write for him a poem that he could draw pictures to. The great poet complied and "The Pied Piper of Hamelin" was the result.

Browning did not intend it for the public, but when his volume of "Bells and Pomegranates" was forthcoming, it was found that it contained some empty pages. Pressed by his friends he reluctantly consented to allow "The Pied Piper of Hamelin" to fill them. Inasmuch as the title, "Bells and Pomegranates," suggests an alternation of poetry with thought, the poem was not ill-placed. Look and listen and you will have music and refreshment.

The Pied Piper has been a favorite with painters and illustrators ever since the poem called forth the efforts of Master Macready; and fortunate, indeed, is the teacher who can present to her class, reproductions of the pictures by Dixon and George John Pinwell. More easily procured are pictures of German towns of the middle ages, with their funny, little shops and ungraded, crooked streets; also those of dear little German children of long ago in their much embroidered dresses and wooden shoes. Several scenes in the poem are portrayed so vividly and with so much color that they lend themselves readily to children's efforts at illustration. You remember it was Browning's belief that one art should inspire another.

Some of the passages that suggest the possibility of illustration are "The Piper Offering His Services to the Mayor and Corporation," "The Piper Piping the Town Free from Rats," and "The Piper and the Children." The teacher can make a very effective frieze of the merry, jostling crowd of little boys and girls following close in the train of the quaintly attired Piper from whose long, smooth pipe there issue "such sweet notes as yet musician's cunning never gave the enraptured air." These figures may be done in water-colors, cut out and pasted against a soft gray background.

At the beginning of this poem so rich in dramatic quality, we have located for us the scene where the plot is laid: scene,—Hamelin in Brunswick; time, —five hundred years ago; by way of comment,—"a pleasanter spot you never spied."

Describe to the children an old town like Hamelin with its walls and gates and tell the reason for thus protecting a town. Have them describe the difference between such a town and a modern city. Let them take a walk with you, in fancy, down Bungen street (the one that figures in this story) and let them note the absence of tall buildings and asphalted pavements. See, here is a street broken in several places by flights of stairs!

When the story opens the townspeople are suffering from a plague of rats; and such an intrusion as it is,—one that could only be effected by rodents utterly conscienceless and grown bold by increase in numbers! Besides committing a number of depredations and assaults they even spoil the women's chats!

Why did the people flock into the Townhall with vituperation and threats for the Mayor and Corporation, while that august body *quaked with a mighty consternation?*

For an hour the Mayor and Corporation deliberate on possible methods of ridding the town of rats. At length, the Mayor cries in despair, "For a guilder I'd sell my ermine gown!" For how much? For about thirty-eight cents he would part with the insignia of his office and all the dignity they imply, rather than be confronted any longer by the distressing problem. In such a state of perturbation, with his thoughts always on one subject, is it any wonder that a gentle tap at the door makes him jump and exclaim:

"What's that?
Anything like the sound of a rat
Makes my heart go pit-a-pat!"

Ask the children to form in their minds a picture of the strange yet not awesome figure of the Piper in his long, pied cloak; of his tender, wistful face with the lips *where smiles went out and in.*

Of what achievements does he boast? Why do the Mayor and Corporation raise the payment demanded by the Piper from one to fifty thousand guilders?

Unassuming, but always conscious of his power, the Piper steps into the street. Listen to the music of the following passage! It is undeniably a little melody, one that might have been written by Schumann, for example. The rythm is as descriptive of the scene as the words themselves. The first four lines compose the introductory passage leading to the subject; then comes the *bravura* beginning with a *crescendo,* the onomatopeia heightening the effect; later it merges into *descrescendo* when it ends quite simply in the last line.

"Into the street the Piper stept,
  Smiling first a little smile,
As if he knew what magic slept
  In his quiet pipe the while;
Then like a musical adept,
To blow the pipe his lips he wrinkled,
And green and blue his sharp eyes twinkled,
Like a candle flame where salt is sprinkled;
And ere three shrill notes the pipe had uttered,
You heard as if an army muttered;
And the muttering grew to a grumbling;
And the grumbling grew to a mighty rumbling;
And out of the houses the rats came tumbling—
Great rats, small rats, lean rats, brawny rats.
Brown rats, black rats, grey rats, tawny rats,
Grave old plodders, gay young friskers,
  Fathers, mothers, uncles, cousins,
Cocking tails and pricking whiskers,
  Families by tens and dozens,
Brothers, sisters, husbands, wives—
Followed the Piper for their lives."

Of course no one is going to explain song quality to the children; but if the poem be rendered with some degree of appreciation on the part of the teacher, the children will be sensitive to the musical quality of such a passage as this, as well as the humor that graces all the lines, and the justice attending the punishment of the people of Hamelin. For it was always Browning's desire to rouse in others the power of seeing truth and beauty in simple things.

Pray, do not take the rhymes too seriously. There will always be much diversity of opinion concerning Browning's ability to write poetry (so long as some maintain that the merit of a poem depends upon the nicety of its rhymes). You can find much that is *bizarre* in this particular work and a few rhymes which it is physically impossible to say. But do not allow it to mar your pleasure, for it proves nothing except Browning's sense of fitness and love of the grotesque.

Describe the music that charmed the rats. Why did they find it so enticing? The shrill, scraping sound of the piper's song was very sweet in the rats' ears, with its refrain of, "Oh, rats, rejoice! The world is grown to one vast drysaltery!" So in this enticing melody lay the rats' perdition.

In what way did Ratland hear of the catastrophe?

How did the people of Hamelin express their satisfaction? *You should have heard the Hamelin people ringing the bells till they rocked the steeple.*

Then like a tardy conscience prick, appeared the Piper in the market-place, demanding his thousand guilders. *The Mayor looked blue, so did the Corporation, too.* Who could believe that the Mayor and Corporation would become mere bargain drivers? The Mayor's speech reflects no credit on Hamelin. With what contempt for him we hear him say,

"Beside, our losses have made us thrifty;
A thousand guilders! Come, take fifty!"

But it is no craven that he has to deal with; for, says the Piper, "Folks who put me in a passion may find me pipe to another fashion." Did you note, by the way, the Piper's remark that he must reach Bagdad by dinner-time? This mysterious Piper must be endowed with wonderful powers! Can you not see everyone in that gaping crowd, prick up his ears at that? Nevertheless the reckless Mayor dares the Piper do his worst.

The Piper turns from the people of the town who will not acknowledge his power. He thinks of the children; perhaps they will hear.

Into the street steps the Piper again. Note, please, the musical quality of the lines whenever he puts that magic pipe to his lips. Here also there is a short prelude:

"Once more he stept into the street,
  And to his lips again
  Laid his long pipe of smooth, straight cane;
And ere he blew three notes (such sweet
Soft notes as yet musician's cunning
Never gave the enraptured air)"——

Listen to the tinkling of the bells that was promised you. This time there is no rumbling and grumbling and laboring of lines but an airy, tripping, fairy-like measure:

"There was a rustling that seemed like a bustling
Of merry crowds justling at pitching and hustling,
Small feet were pattering, wooden shoes clattering,
Little hands clapping and little tongues chattering,
And like fowls in a farmyard when barley is scattering
Out came the children running:
All the little boys and girls,
With rosy cheeks and flaxen curls,
And sparkling eyes and teeth like pearls,
Tripping and skipping ran merrily after
The wonderful music with shouting and laughter."

This is fairy music. No breaking of hoops and drawing of corks this time. These are visions of the joyous land where our fondest hopes come true; where the waters are always sweet; where every horse is a Pegasus; and where the trees bear their fruits and blossoms together. It is music that only those whose lives are not stunted by the greed of gold can understand.

The wondrous portal opens and admits the happy children. Our sympathy is all with those who must stand without and *never hear of that country more.* The penalty the townspeople suffer is severe, but perhaps next time they will not forget to pay the Piper.

Geography in the 4A Grade.

By TEMPERANCE GRAY, P. S. 141, Brooklyn.

IN too much of our teaching we delay progress by putting the cart before the horse. This is especially true in geography. We go from a map of South America to rubber overshoes, instead of going from rubber overshoes or some other familiar product to the map of South America; we go from a map of England to chalk, instead of letting the crayon on the blackboard introduce the map of England; from a map of Switzerland to the traveler in the Alps, instead of going from a trip (by means of pictures, stories, souvenirs) among the mountains and lakes of that region to a formal map of Switzerland, whose scenery attracts so many travelers. Instead of putting the real and familiar first and inducing the children to *want* a map, we put the remote and meaningless map first and then wonder at the boy who, after some years in school, was taken to Switzerland and refused to believe that it was Switzerland because it was not pink.

Most disastrously do we miss the spirit of the new course of study if in the 4A grade we confine ourselves to imparting geographical knowledge regarding New York city and the earth as a whole. The 4 A class should select the site and collect the material to be used in building, later, the superstructure of geography. The foundation is laid in this grade and it behooves us to dig deep into the child's experience, to search the hidden recesses of his imagination, that we may found upon the firm rock of intelligence the structure of knowledge we plan to rear. Give him such a basis for his work that he may himself build thereon during all the years to come. You may begin 4A work by putting a map of New York before the class and setting them to learn the boroughs and their boundaries. This will be drudgery to them; and while they may memorize the statements, they will hate geography and they will get a distorted notion of a map that no future teaching, however good, can entirely eradicate. Or you may begin 4A work by using the geography the child has learned outside of school—for he has learned much, though he has never dreamed of calling it geography—and leading up to map study, later in the term in such a way that a map of any kind will thenceforth possess a world of meaning for him. The great aim in this grade should be to lead the children to a conception of geography that will make future work rational and interesting—a conception that will forever avert the danger of a crooked-black-line notion of the Mississippi River, a pink Switzerland. I wish that we were not so impatient to get cut-and-dried statements; that we were not so determined to measure results by the array of facts a child can present in answer to set questions; that power to learn might count for more with us than what has been learned. Then we should be content if someone said of our 4A class, "They know a little bit of geography, but they are intensely interested in it and eager to know more, and they use maps and other material very intelligently."

Home geography should mean exactly what its name implies—*home* geography. In introducing the child to the study of geography—the study of the earth in its relation to man—it is not necessary to start with the stranger earth and back around to its relation to man. Man is the starting point—no, not man, *boy*—the boy in his home with his cap and shoes, his

Written.

I. Addition and subtraction of fractions, continued.

II. Reduction of fractions 96/144, 72/108, 25/125, etc.

III. Multiplication of a whole number by a mixed number.

526 728
×54½ ×59¾

IV. Division with divisors of three orders.

V. Rapid addition of dollars and cents.
Subtraction of dollars and cents.

VI. Problems: Bought a house for $4,250; sold it at a loss of $375. Selling price?

THIRD WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting by 5s, beginning with 1, 2, 3 and 4.

III. Tables: Multiply through 5 × 12. Division within the tables.

IV. Business fractions:

Addition and subtraction of ¼ and ⅕, ⅓ and ⅙, ½ and ¾, ⅔ and ⅙, ¼, ¾, ⅕, ⅖, ⅗, ⅘, of multiples of denominators within 100.

V. Reduction of easy fractions (continued).

VI. Reduction of mixed numbers, *e. g.*, 6⅔, 5¾, etc.

VII. Problems involving addition and subtraction of business fractions.

Written.

I. Reduction of mixed numbers, 53¾, 85⅙, etc.

II. Addition and subtraction of fractions (continued).

III. Reduction of common fractions (continued).

IV. Multiplication with ciphers in multiplicand and multiplier. 47,800 × 260; 5,320 × 370.

V. Division with ciphers in dividend and divisor. 476,500 ÷ 3,200; 624,320 ÷ 580.

VI. Problems involving addition and subtraction of fractions, *e. g.*: One tub of butter weighs 36½ pounds; another 45¼; another 61⅓. How many pounds in the three tubs?

FOURTH WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting by 6s, beginning with 1, 2, 3, 4 and 5.

III. Tables: Multiply through 6 × 12; stated both ways. Division within the tables.

IV. Business fractions:

Addition and subtraction. Finding 5/6 and 1/6 of multiples of denominators within 100.

V. Reduction of improper fractions to mixed numbers.

VI. Tables of United States money.

VII. Problems.

VIII. Finding cost of articles at $0.50 (1/2). How much would 24 hats cost at $0.50 each?

Written.

I. Reduction of improper fractions to mixed numbers, *e. g.*: 158/6, 227/4, 326/5, etc.

II. Finding fractional parts, *e. g.*: 3/4 of 784; 2/5 of 965, etc.

III. Finding the whole when part is given, *e. g.*: 126 is 1/3 of what number?

IV. Problems: If 1/4 of a farm is worth $965, how much is the whole farm worth?

V. Problems in United States money.

FIFTH WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting by 7s, beginning with 1, 2, 3, 4, 5 and 6.

III. Tables: Multiply 7 times 1 to 12; stated both ways. Division within the tables.

IV. Business fractions:

Addition and subtraction of 2/3 and 3/4; 2/3 and 1/6; 1/2 and 2/3; 3/4 and 1/8, etc.

Finding whole number when part is given, *e. g.*: 12 is 1/3 of what?

V. Linear measure—estimate dimensions of room, desks, boxes, etc., then measure lengths, measuring to the half inch, fourth inch and eighth inch.

VI. Problems involving linear measure—cost of fencing, etc.

Written.

Plots of land of definite dimension drawn to scale; cut up into building lots of definite dimensions; find cost of fencing whole and parts, such as 1/2, 1/4, 1/8.

General review of four weeks' work.

I. Addition, subtraction, multiplication, division.

II. Fractions—addition, subtraction, multiplication and reduction.

III. Denominate numbers—United States money and linear measure.

SIXTH WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting by 8s, beginning with 1, 2, 3, 4, 5, 6 and 7.

III. Multiplication tables 8 × 1 to 8 × 12; stated both ways.

IV. Business fractions:

Addition and subtraction.

V. Finding whole when part is given. 1/8 of 8 to 96.

VI. Reduction of denominate numbers, *e. g.*: How many inches in 1½ yards? How many yards in 27 feet?

VII. Teach time table.

Written.

I. Decimals.

Principles of the decimal notation extended to the right of units; relation to common fractions.

SEVENTH WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting by 9s, beginning with 1, 2, 3, 4 and 5.

III. Tables: Multiply through 9 × 12; stated both ways. Division within the table.

IV. Business fractions:

Addition and subtraction of sixths and eighths.

Finding 1/9 of 9 to 108.

Finding whole when part is given.

V. Finding cost of articles at $1.50 (1½).

VI. Easy problems involving cost of articles at $0.50 (½), $0.25 (¼), $1.50 (1½).

Teach avoirdupois weight.

Written.

I. Decimals (continued).

II. Problems:

a. Finding the cost of a number of articles when the cost of one is given.

b. Finding the cost of one when the cost of a number is given.

c. Finding the cost or value of whole when value of part is given.

EIGHTH WEEK.

Oral.

I. Drill in four operations.

II. Counting by 9s, beginning with 6, 7 and 8.

III. Tables: Multiply 10 × 1 to 10 times any number. Dividing any number of two or three orders by 10.

IV. Business fractions:

Addition and subtraction.

Multiply numbers 4 to 20 by 1½, 1¼, and 1¾.

V. Finding the cost of articles at $1.25 (adding cost at $0.25 to cost at $1.00).

VI. Square measure developed—square inches, square feet, square yards.

VII. Easy problems involving the same.

Written.

I. Decimals (continued).

II. Problems involving square measure—finding areas—area of floor estimated, then measured; rectangle separated into 8 equal parts; ½, ¼ and ⅛ compared to find how many times ½ contains each of the others. What part of ½ is ¼? What part of ½ is ⅛? What part of ¼ is ⅛? etc.

NINTH WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting by 8s, beginning with 1, 2, 3, 4, 5, 6 or 7.

III. Tables: Multiply 11 × 1 to 11 × 12; stated both ways. Division-finding quotients with dividends from 11 to 132.

IV. Business fractions:

Addition and subtraction.

Multiplying numbers 5 to 50 by 1⅕, 1⅖, 1⅗, etc.

V. Easy problems involving linear and square measures.

Written.

I. Addition and subtraction of decimals.

II. Rectangle separated into 6 equal parts; ½, ⅓, ⅙ compared to find how many times ½ contains ⅙; what part ⅙ is of ⅓, etc.

Find cost of fencing the whole.

Find cost of fencing 1, 2, 3, 4 or 5 lots.

Find area of rectangle.

Find value of the whole.

Find value of one or more lots and subtract from value of the whole.

TENTH WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting by 6s, 7s, 8s and 9s.

III. Tables: Multiply 12 × 1 to 12 × 12; stated both ways. Divisor 12; dividends 12 to 150; find quotients.

IV. Business fractions:

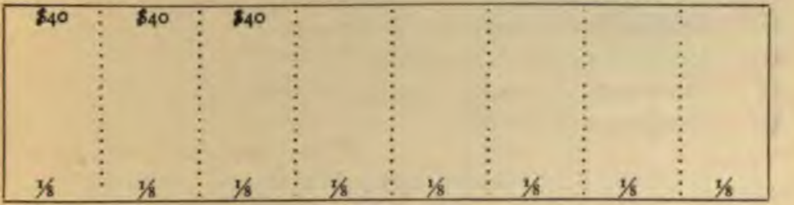
Addition and subtraction.

Multiplying whole numbers by mixed numbers, *e. g.*: 15 × 2⅓; 20 × 4¼; 12 × 8⅔, etc.

V. Problems: Finding a quantity when a fractional part is given. 4 is ⅔ of what number? Illustrated by drawings and objects.

Written.

I. Problems: Finding value of whole when part is given, *e. g.*: if ⅜ of a lot costs $120, what would the whole lot cost? Illustrated by drawing.



II. General review.

Four operations—proofs—short methods—problems.

ELEVENTH WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting by 6s, 7s, 8s and 9s.

III. Tables: Multiply by 2, 3, 4 and 5. Division within tables.

IV. Business fractions:

Addition and subtraction.

Multiply whole numbers by mixed numbers. Subtract mixed numbers from whole numbers.

V. Cubic measure developed.

Contents of room, boxes, etc., estimated then measured. Cubic inches, cubic feet, cubic yards developed and memorized.

Written.

I. Cubic measure.

Problems finding contents of solids in inches, feet and yards.

II. Addition and subtraction of decimals.

III. Addition and subtraction of fractions.

Problems: Profit and loss.

Problems: Finding value of whole when part is given (more than one part). If ¾ of a farm is worth $750, what is the whole farm worth?

TWELFTH WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting by 6s, 7s, 8s and 9s.

III. Tables: Multiply by 6, 7, 8 and 9. Division within the tables.

IV. Business fractions:
Addition and subtraction.
Subtracting mixed number from whole number.
V. Cubic measure (continued).
VI. Problems.

Written.

I. Finding contents of solids (continued).
II. Addition and subtraction of decimals.
III. Multiplication and division.
IV. Short methods of multiplication by 75 and 99.
V. Problems.

THIRTEENTH WEEK.

Oral.

I. Rapid drill in four operations.
II. Counting by 2, 3, 4 and 5.
III. Tables: Multiply by 10, 11, 12. Division within the tables.
IV. Business fractions:
Addition and subtraction.
Multiplication of integers by mixed numbers.
V. Problems.

Written.

I. Problems involving long measure, square measure and cubic measure.
II. Reduction of denominate numbers.
III. Addition and subtraction of decimals and fractions.
Multiplication and division.
IV. Reduction of common fractions.
Reduction of improper fractions.
Reduction of mixed numbers.

FOURTEENTH WEEK.

Oral.

I. Rapid drill in four operations.
II. Counting by 6s, 7s, 8s and 9s.
III. Tables: Multiply by 6, 7, and 8. Division within tables.
IV. Business fractions:
Find fractional parts 1/6, 1/7 and 1/8 of multiples to 100.
V. Denominate numbers—finding what part one denominate number is of another; *e. g.*, What part of a foot is an inch?
Added and subtracted.
What part of a dollar is a dime? etc.

Written.

I. Bills made out and receipted.
II. Continue finding areas of surfaces.
III. Continue finding contents of solids.
IV. Continue finding cost of fencing.

FIFTEENTH WEEK.

Oral.

I. Rapid drill in four operations.
II. Counting by 11 and 12.
III. Tables: Multiplication review, division review.
IV. Business fractions—addition and subtraction.
V. Review of United States money, linear measure, square measure, cubic measure.
VI. Problems involving simple analysis. If 8 books cost $3, what would 16 cost?

Written.

I. Bills (continued).
II. General review.

SIXTEENTH WEEK.

Oral.

I. Rapid drill in four operations.
II. Counting by 7, 8 and 9.
III. Tables: Multiply by 20, 30, 40; division.
IV. Business fractions:
Addition and subtraction.
Finding fractional parts, 1/8, 3/8, 5/8, and 7/8 of 8 to 96.
Review—finding cost of articles at $0.50; $0.25; $1.50; $1.25.

Written.

I. Writing decimals to thousandths.
Addition and subtraction of same.
II. Reduction of fractions.
III. Reduction of mixed numbers.
IV. Problems involving reduction of denominate numbers.
V. Problems involving linear, square and cubic measure.

SEVENTEENTH WEEK.

Oral.

I. Rapid drill in four operations.
II. Counting by 11 and 12.
III. Tables: Multiplication by 50 and 60. Division within tables.
IV. Business fractions:
Addition and subtraction.

Fractional parts given, to find the whole. Multiplication of integers by mixed numbers.

V. Review: Time table, avoirdupois weight.

Written.

I. Addition and subtraction of fractions.

II. Problems involving the same.

Problems involving time and avoirdupois weight.

EIGHTEENTH WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting by 6s, 7s, 8s and 9s.

III. Tables: Multiply by 70 and 80. Division within tables.

IV. Business fractions:

Addition and subtraction.

Subtracting mixed number from whole number.

V. Review definition of fraction, terms of fraction, numerator and denominator, common fraction, improper fraction and mixed number.

Written.

I. Addition and subtraction of decimals.

II. Addition, subtraction, multiplication and division of United States money.

III. Problems.

NINETEENTH WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting.

III. Tables (reviewed).

IV. Business fractions (reviewed).

V. Problems, involving denominate numbers, profit and loss, etc.

Written.

I. Making out bills and receipting them.

II. Review and short methods.

TWENTIETH WEEK.

Oral.

I. Rapid drill in four operations.

II. Counting.

III. Tables.

IV. Business fractions.

V. General Review.

Written.

General Review.

Language in 5A.

By Charles Schlivinski, P. S. 55, Brooklyn.

Analysis of Term's Work.

I. Subject and Predicate—simple declarative sentences.
II. Drills on correct forms of misused prepositions.
III. Drills on correct forms of irregular verbs.
IV. Plurals of nouns in 4A.
V. Possessives of nouns and pronouns in 4B.
VI. Comparatives and superlatives in 4B.

Weekly Plan.

Once a week twenty lessons. Subject and predicates, eight lessons. Prepositions.

Once a week, twenty lessons, verbs; four lessons, plurals; five lessons, possessives; three lessons, comparatives.

Besides the twenty lessons on sentence structure, extra time is had in composition periods for study of simple declarative sentences.

The time for the lessons on prepositions and language of 4A and 4B had best be arranged as far as possible to accord with needs of class.

Total number of lessons, 60; three a week.

Subject and Predicate.

Lessons might well lay stress on one variation each in all of the four types, but review in all lessons.

Variations.

I. Simple subjects—Nouns, pronouns, adjectives.
II. Simple subjects—Verbal and phrase.
III. Modified subjects—Adjectives, possessives, appositives.
IV. Modified subjects—Verbal and phrase.
V. Compound subjects.
VI. Modified predicates.
VII. Auxiliary verbs.
VIII. Compound predicates.
IX. *Be* in predicates.
X. Compound complements.
XI. Transposed order.

MISTAKES IN SENTENCE STRUCTURE.

I. A subject is lacking.
II. A predicate is lacking.
III. Several sentences are written as one.

I.

SIMPLE ELEMENTS—NOUN, PRONOUN, ADJECTIVE SUBJECTS.

Examples.

Noun Subjects.

1. Nobody can serve two masters.
2. Time works wonders.
3. Britannia rules the waves.
4. The spendthrift becomes a beggar.
5. Mont Blanc is the monarch of mountains.
6. Honesty is the best policy.

Pronoun Subjects.

7. This was the noblest Roman of them all.
8. Fair as a rose was she.

Adjective Subjects.

9. The prosperous are often cold-hearted.
10. The brave are favored by fortune.

II.

SIMPLE ELEMENTS—VERBAL AND PHRASE SUBJECTS.

Examples.

Verbal Subjects.

11. Constant dropping wears away stones.
12. To see is to believe.
13. To be content is better than to be rich.
14. Borrowing brings sorrowing.
15. Well begun is half done.
16. All beginning is difficult.
17. Saving is earning.
18. To obey is better than to be punished.
19. To speak deceitfully is a sin.

Phrase Subjects.

20. Out of sight is out of mind.

III.

MODIFIED SUBJECTS—ADJECTIVES AND POSSESSIVES AS MODIFIERS; APPOSITIVES.

Adjective Modifiers.

21. A wise son maketh a glad father.
22. Wise men lay up knowledge.
23. The sweetest music to a mother is the prattle of her little children.

Possessive Modifiers.

24. Nelson's courage was undoubted.
25. Thy wish was father to that thought.

Appositives.

26. He himself will be judge.
27. This gentleman, the prince's near ally,
My very friend hath got his mortal hurt.
28.
29.

IV.

MODIFIED SUBJECTS—VERBAL AND PHRASE MODIFIERS.

Examples.

Verbal Modifiers.

30. Caesar, having conquered Gaul, sailed.
31. Toiling, rejoicing, sorrowing,
Onward through life he goes.

Phrase Modifiers.

32. The door-step to the temple of wisdom is a knowledge of our own ignorance.

V.

COMPOUND SUBJECTS.

Examples.

33. Rich and poor must mingle in life.
34. Something attempted, something done,
Has earned a night's repose.

VI.

CORRECTION OF FALSE SENTENCE STRUCTURE.

Good material may be found in compositions.

A subject is lacking. This usually results from the separation of the parts of a compound predicate into separate sentences.

Example.

(Taken from child's composition.)

"The small houses are only one story high. And have clean white curtained windows."

VII.

MODIFIED PREDICATES.

Examples.

35. The eagle seldom or never turns his back upon a storm.
36. The wood of the oak is remarkable for its strength and toughness.
37. Day dawns up on the mountain-side.
38. Loud from its rocky caverns, the deep-voiced neighboring ocean speaks.
39. A sable cloud.
Turns forth her silver lining on the night.

VIII.

AUXILIARY VERBS.

Examples.

40. You all do know this mantle.
41. A merry heart doeth good like a medicine.
42. He could speak readily in three or four languages.
43. The lights of the village might be seen from the bay.
44. Ambition should be made of sterner stuff.
45. He would not speak.
46. We can make our lives sublime.
47. Wealth may seek us.
48. Wisdom must be sought.

IX.

CORRECTION.

A predicate is lacking. This usually results from lading the subject so with modifiers that such modifiers pass in the child's mind for assertions.

Example.

"The windows of which there are only three."

X.

COMPOUND PREDICATES.

Examples.

49. Paris is built on both sides of the Seine, and has many bridges.
50. Fierce winds often sweep over the desert and fill the air with sand.

51. The unwearied sun from day to day
Doth his Creator's power display,
And publishes to every land
The work of an Almighty hand.

XI.

Be IN PREDICATE, IN SENTENCES NOT VERY EASILY INCLUDED IN FOUR TYPES.—THIRD AND FOURTH TYPES.

Examples.

52. Here is the statue of Romulus and Remus.
53. There is no place like home.
54. There can be no excellence without labor.
55. Prevention is better than cure.

XII.

COMPOUND COMPLEMENTS.

Examples.

56. Life is short but very precious.
57. Night is pleasant as well as day.
58. The child gathered shells and pebbles along the seashore.
59. Lifeless but beautiful he lay.
60. We heard the bleating of the flock,
And the twitter of birds among the trees.
61. The day is cold and dark and dreary.

XIII.

CORRECTION.

Several sentences are written as one. War on *and*.

XIV.

TRANSPOSED ORDER.

Examples.

62. Only to man has been given the power of speech.
63. A braver man than Napoleon the world has never known.
64. Not a step out of his way moved Diogenes to see Alexander.
65. So ambitious was Caesar.
66. A good man was Charlemagne.
67. Killed was that noble friend Caesar.

XV.—XX.

DRILL—TESTS—CORRECTION.

Notes.—In all work include: 1. All four types; 2. negative elements; 3. different tenses.

Examples.

Negative Elements.

68. One does not believe a liar.
69. Not a grain did the locusts leave.
70. There is no such thing.

Different Tenses.

71. In the beginning God created the heaven and the earth.
72. Down sunk the disappearing band.
73. There is a land of pure delight.
74. I had now come in sight of the house.
75. The walls of this most curious fortress have probably lost much of their original height.
76. Duncan comes here to-night.
77. A cloud of smoke envelopes either host.
78. Shakespeare says so.
79. It has rained all the week.
80. In a few years my son will have completed his college course.

Material with content.

Don't be somebody's cat's-paw.

81. Some ripe chestnuts were roasting in the fire.
82. A hungry monkey smelled the tempting food.
83. A poor unlucky pussy came along.
84. The kitty's dainty paw served as poker for the scamp.
85. The cruel selfish monkey ate the nuts.
86. Poor pussy's paw was soon almost a wreck.
87. The saucy mice had jolly times just then.
88. The blame for stealing was laid on pussy, too.

The following sentences are given as examples, classified with difficulty in the four types:

1. He seems wealthy.
2. Soon he became a rich man.
3. The rose smells sweet.
4. The milk tastes sour.
5. Roosevelt was elected President.
6. That operation was at once begun.
7. A day to childhood seems a year.
8. The great ocean of truth lay all undiscovered before me.

GRADE WORK USED IN MATERIAL; ALSO SIMPLE AND MODIFIED ELEMENTS COMPARED.

1. Philip was assassinated.
   Philip, father of Alexander the Great, was assassinated by some unknown person.
2. Mother Nature is good.
   Mother Nature, in every act, is so good to her children.
3. Great Britain is an island.
   Great Britain, including England, Scotland and Wales, is an island north of France.
4. Alexander cried.
   Alexander the Great cried on hearing of his father's conquests.

Easy sentences may be found in Maxwell's First Book on English on pages 5, 7, 10, 12, 13, 28, 32, 38, 61, 62, 66, 71, 88, 89, 91, 102, 103, 106, 146.

More difficult sentences on pages 37, 42, 50, 55, 62, 63, 64, 73, 74, 75, 76, 77, 80, 83, 94, 95, 111, 112, 141, 144, 148, 152, 155.

PREPOSITIONS. (EIGHT LESSONS.)

I. *Off* and *from* distinguished.
II. *In* and *into* distinguished.
III. *Between* and *among* distinguished.
IV. *Of, in, at, to.*
V. *Of* superfluous and omitted.
VI. *On of* distinguished; misused *on*.
VII. *Beside, besides.*

I.

Off AND *From* DISTINGUISHED.

1. Take your elbows *off* the table.	1. He took money *from*, etc.
2. (Not *off*.)	2. Get the book *from* a boy.
3. Keep your reader *off* the desk.	3. May I take it *from* the desk?
4. The bird hopped *off* its perch.	4. It hopped *from* the perch to the floor.
5. Push those things *off* the box.	5. (Not *from off*.)
6. (Not *off of*.)	6. I got these eggs *from* Jones.
7.	7. May I borrow a pencil *from* John?
8. (Not *lend*.)	8. Try to borrow money *from* a person.
9. (Not *off*.)	9. View *from* Mt. Blanc is fine.
10. (Not *off*.)	10. This letter is *from* John.
11. (Not *off*.)	11. He got a pencil *from* Henry.

(See Hyde's, page 215.)

II.

In AND *Into* DISTINGUISHED.

1. There were five birds *in* a nest.
2. Children are playing *in* the park.
3. Bats fly *in* the night.
4. Come *in*.
5. Go *in*.
6. God created man *in* his own image.

1. Water flowed *into* a pitcher.
2. He fell *into* the water.
3. We went *into* the room.
4. They got *into* the carriage and then rode *in* it.
5. Animals are divided *into* two great classes.
6. He dipped his pen *into* the ink.

III.

Between AND *Among*.

1. Money was divided *between* May and Alice.
2. A quarrel took place *between* two playmates.
3. He was placed *between* two boys.
4. Choose *between* happiness and wealth.
5. Jealousy came *between* him and her.
6. He was tied *between* two trees.

1. Money was divided *among* Frank, May and Alice.
2. A quarrel took place *among* five brothers.
3. He sat *among* the bad boys of the class.
4. Choose *among* us.
5. Misunderstandings arise *among* the best of friends.
6. They hid *among* the trees.

IV.

PREPOSITIONS.

See Hyde's page 214.

1. *Of, in.* Correct, *on.*
2. *At.* Correct, *to.*
3. Superfluous *of* in *all of.*
4. *Of.* Correct, *from.*
5. *Upon.* Correct, *on.*
6. Superfluous *to* and *at.*

1.

1. The hue *of* her lips was whitish.
2. His breath smelled *of* wine.
3. They cured him *of* a bad habit.
4. He is round *in* the shoulders.
5. Rejoice *in* the Lord.
6. We delight *in* praise.
7. He had no difficulty *in* making up his mind.

2.

Is your master *at* home?

3.

How many of those men do you see?	I see them all. (Not *all of.*)
How much of this shall I take?	Take *it all.* (Not *all of.*)
How many of your friends did you see?	I saw *all my* friends.

4.

He died *of* cholera.

5.

We should not lay the blame *upon* him.

6.

Where are you going? (to)

Where was I? (at)

V.

1. Correct *kind of* (*a*).
2. Correct *sort of*, for *somewhat, a little.*
3. Correct *no use*, for *of no use.*
4. Correct *carry on*, for *misbehave.*
5. Correct *take on*, for *scold, grieve*
6. Correct *tell on*, for *inform against.*

Distinguish *tell of.*

1.

Onyx is a *kind of* stone.

That's the *sort of* person he is.

2.

He's (sort of) *somewhat* foolish.

I'm (kind of) a little tired.

3.

It is *of no use* to argue with him.

4.

The children had a jolly time.

5.

Oh, but didn't she scold us!

6.

They gave information (or informed) against the prisoner.
They tell beautiful stories of Joan *of* Arc.

VI.

Distinguish (see Hyde's, page 214): 1. beside (by the side of); 2. besides (in addition to).

1.

1. He sits *beside* the well.
2. I sat *beside* the glowing grate.
3. The lady sat down *beside* the child.
4. He stood *beside* the fountain.
5. There were two *beside* him.
6. This is poor work *beside* yours.
7. My father was *beside* himself.

2.

8. Have you any money *besides* this?
9. *Besides* the house he offered us the use of his furniture.
10. There were six boys *besides* Herbert.
11. He had opportunity *besides* wealth.

IRREGULAR VERBS.

(20 Lessons.)

Perhaps all of these cannot be taken in twenty lessons.

Emphasize *lay and lie, learn and teach.* These two pairs will take three lessons each, perhaps more.

Break, tear and forget can best be taught together.

Plurals of Nouns.

(4 Lessons.)

I.

Add *s* to the singular of most nouns, to form the plural.

Examples.

clock
marble
tree
bird
car
flower
table
cuff
chief
hoof
monkey
journey
rose
ice
trio
rose-tree
book
basket
pailful
cupful
spoonful
boat
chimney
day
scarf
lasso
towel
toy
prize
banjo
two
donkey
slate
mile
hour
week
pencil
turkey
Monday
safe
valley
solo
picture
sponge
hoe
cuckoo
boy
pulley
chair
hat
coat
paper
flag
brother
gulf
roof
fife
piano
path
alley
soprano
buoy
proof

II.

When *s* makes an additional syllable, add *es* to the singular to form the plural.

Examples.

tax
glass
fish
brooch
crutch
brush
grass
ostrich
thrush
latch
mesh
ditch
dress
bench
class
batch
match
box
lens
bush
dish
wish
peach
scratch
topaz
chorus
rush
arch
church
fox
pass
omnibus

Note nouns given in I. ending in *e*. If the *s* sound gives an additional syllable put them under II. and give rule of dropping final *e* before a suffix beginning with a vowel.

III.

Add *es* to some nouns ending in *o*.

buffalo
flammingo
negro
volcano
cargo
hero
potato
torpedo
domino
mosquito
tomato
mulatto
echo
motto
tornado
calico

IV.

To form plurals of singular nouns ending in *y* preceded by a consonant, change *y* to *i* and add *es*.

lily
berry
sky
spy
daisy
story
country
army
city
baby
fly
lady
fairy
reply
copy
cry

V.

Some words ending in *f* or *fe* change to *v* and add *es*.

calf
leaf
sheaf
wolf
life
shelf
elf
half
loaf
thief
wife
knife

1. Hurt. Correct *hurted*.
2. Lie, Lay. } Distinguish. Drill on principal parts.
3. Sit, Set. } Distinguish.
4. Learn, Teach. } Distinguish. Correct *teached*.
5. Break. Drill on *broken*.
6. Tear. Drill on *tore* and *torn*.
7. Bring, Carry, Fetch, Take. } Drill on *taken*. Drill on *brought*. Distinguish.
8. Choose. Drill on *chose* and *chosen*. use *choice*.
9. Begin. Drill on *began*.
10. Blow. Drill on *blew* and *blown*.
11. Burst. Corect *bursted*.
12. Fight. Drill on *fought*.
13. Forget. Drill on *forgotten*.
14. Pay. Drill on *paid*.
15. Think. Drill on *thought*.
16. Throw. Drill on *threw* and *thrown*.
17. Ought. Correct *had ought*.
18. Hoist. Drill on pronunciation.

VI.

The plurals of some nouns are formed by changing the vowel sounds of the words.

Examples.

man
mouse
foot
woman
goose
tooth

VII.

A few nouns have same form for singular and plural.

Examples.

deer
sheep
trout
swine
fish
heathen

The plurals of compound words are generally formed by adding the sign of the plural to the principal word.

Examples.

father-in-law
man-servant

I think man-servant has both parts inflected generally.

POSSESSIVES.

(5 Lessons.)

I.

Sing.: my	your	his	her	it	Sing.:	whose
Plur.: our	your		their		Plur.:	whose
Sing.: mine	yours	his	hers	its		
Plur.: ours	yours		theirs			

II.

To form possessives of singular and plural nouns not ending in *s*, add *'s*.

Examples.

Napoleon took ***Emperor Frederick's*** sword.
Men's passions should be strong.
William, James, and *Mary's* uncle.
This is a play of Shakespeare's.
Napoleon's and Wellington's forces met at Waterloo.

III.

To form possessives of singular nouns ending in *s*, generally add *'s;* sometimes ***apostrophe*** only.

IV.

To form possessives of plurals ending in *s*, add apostrophe only.

Jesus' life is described in New Testament.

Examples of Possessives.

1. Hope vanished from John's eye.
2. Enough, enough! sit down and share
A ***soldier's*** couch, a ***soldier's*** fare.
3. He wore his ***grandfather's*** sword.
4. The ***grocers', butchers'*** and ***bakers'*** shops were crowded.
5. On the ***blacksmith's*** forge we see the sparks fly.
6. A good woman laughs at her ***husband's*** jokes and stories.
7. The groves were God's first temples.
8. This is somebody else's hat.
9. If to do were as easy as to know what were well to do, chapels had been churches, and poor men's cottages princes' palaces.
10. William and Mary's father took them for a ride.
11. Webster's dictionary is old.
12. I dined with a party of ladies at my friend's home.
13. I dined with a party of ladies at my friend, Mrs. Lowell's.
14. Julius Cæsar's life was full of ambition.

COMPARATIVES AND SUPERLATIVES.

(3 Lessons.)

	—er	—est
good	better	best
bad evil ill	worse	worst
little	less	least
far	farther	farthest
beautiful	more beautiful	most beautiful

Distinguish between *farther* and ***further.***

Further is preferred in the sense of additional.

No *further* reasons were given.

Read *further* in that book.

Farther is used with respect to distance in space.

Rule: Comparatives are used in comparing two; superlatives in comparing more than two.

See Maxwell's, page 86.

Historical and Biographical Narratives in 5B History Arranged in Topical Outline

By A. London, P. S. 34, Brooklyn.

FIRST MONTH.

Columbus, De Soto La Salle, John Smith, Miles Standish and Wm. Penn.

First Week.

Lesson 1.

Christopher Columbus.

Causes of trade; unrest in Europe; trade of great cities as Genoa and Venice with east; manner of travel on land and water; perils of land route; length of water route; a new water route, the desire of trade; cities. Knowledg of the world at the time of Columbus. Beliefs as to shape; unknown parts. Columbus' belief as to shape of earth and as to reaching India by a southwestern route.

Boyhood of Columbus.

Birthplace—Genoa, its situation by the sea; its trade. Columbus' thoughts as he saw the ships, laden with cargoes, come and go; thoughts sailed along with ships. Desire to become a sailor. His father's trade and circumstances. Columbus helps his father. Early education. Interest in geography. Becomes a sailor. Visits the Mediterranean. Madeira Islands. Supports himself by making sailors' charts.

Columbus becomes convinced in his idea of earth's shape; believes it his mission to discover new route. Fault in Columbus' plan. His wanderings in search of aid. Portugal. Jealousy of Prince Henry. Spain refused aid owing to its war with Moors. Columbus' tenacity. Perseverance in spite of ridicule. Jeered at by children in streets. Columbus at the convent. Prior interested in his ideas. Writes to Queen Isabella. Final success after fourteen years' wandering.

Scene at Palos, Spain, Monday, August 3, 1492.

Great concourse of people at wharf to watch ships sail. Three ships or caravels, Santa Maria, the flagship, Pinta, Nina. One hundred and twenty reluctant sailors. Embarkation. Waiting of people as ships disappear in the distance. People believed they would not see sailors again. Strange ideas of the "Sea of Darkness," as they called the Atlantic Ocean. Mishaps at sea. Rudder broke. Compass does not point exactly north. Sail for three months without success. Men grumble, grow alarmed. Signs of mutiny. Columbus promises to sail back unless land is sighted within three days. Signs of land and final discovery.

Quotation from Webster's "Bunker Hill Oration":

"We can imagine the feeling of the great discoverer of America as he stood on the deck of his shattered bark, the shades of night falling on the sea yet no man sleeping, tossed by the billows of an unknown ocean, yet the stronger billows of alternate hope and despair tossing his own troubled thoughts, straining forward his anxious and eager eye until Heaven at last had granted him rapture and ecstacy at the sight of the unknown land."

San Salvador. Planting of cross and standard of Spain as symbols of possession by Church and Spain. Sailors beg forgiveness.

Lesson 2.

Review preceding.

Columbus' return. Perilous voyage and danger of wreck. Columbus writes account of voyage, placing it in a barrel throws it overboard. Arrival home. Great excitement in Spain. Triumphal entry into Madrid. Received by King and Queen. Enemies at work. Story of Columbus and egg. His four voyages. Shameful treatment and neglect. Cast into prison and chains. West Indies, why so called. Columbus' ignorance of his real discovery. Pitiful death. Burial. Recent interment at Seville.

Ethical lessons of perseverance, bravery and courage to be derived from his life.

Lesson 3.

Review of preceding lessons.

SECOND WEEK.

De Soto and La Salle.

Lesson 1.

De Soto.

Great impetus given to world of adventure by Columbus' discovery. Ideas of conquest and riches in everyone's train. Greed and cruelty of Spanish explorers, Cortez, Pizarro and Navarez. To the latter especially are due the many hardships of De Soto's explorations.

Character of De Soto. Nobleman, beauty, great wealth as Governor of Cuba. Squandering of fortune and desire to retrieve lost wealth. Hits upon the usual idea of exploration as a means. Setting out from Cuba. His company. Gay adventurers, horses, hounds. Landing at Tampa Bay, Florida, and beginning of this wild exploration ended only by death of De Soto and exhaustion of his followers. Savannah River. Indians tell him to go westward where there are mines. Fights with Indians. Liscaloosa and Alabaman Indians. De Soto and his men become disheartened at their failures. Discovery of River. Death of De Soto. Burial in river. Escape of the rest of the adventurers.

Lesson 2.

La Salle and the French control. Scene of French operations. Canada. Great Lakes. Rumors of a great river westward. Marquette the missionary and Joliet the trader. Discovery of the Mississippi. Sailing down the river as far south as Arkansas. Reasons for returning. La Salle greatest discoverer of the French. Built the first ship that sailed on the Great Lakes. First man to sail down the river. New France. Owned by France until 1803. Louisiana Purchase. Exposition.

Lesson 3.

Review De Soto and La Salle.

THIRD WEEK.

John Smith and Miles Standish.

Lesson 1.

John Smith.

Introduction. Period of colonization. Now follows period of exploration. General remarks on scene of colonization of French, English, Spanish—this can be elicited from boys from their knowledge. English colonization. Purpose. Character of men sent out by London Company—lazy, idle "gentlemen," who thought they were going out on a "get-rich-quick" excursion. Strongest character of the company, John Smith. Boyhood. Wayward nature. Soldier. Shipwrecked. Captured by Turks. Reduced to slavery. Harsh treatment by master. Escape. Reaches England in time to join expedition. Sails with colonists.

Jamestown, Virginia, 1607. Origin of the two names. Manner of living in spring and summer. Hardships endured by colonists. Sickness, scarcity of food owing to the laziness of colonists. Food consisted of boiled barley, now and then a crab or fish caught in river. Desire to return to England. Smith's services to colonists. Procures food by exchanging trinkets, and thus saves lives of many colonists. Period known as "Starvation Time."

Smith's Exploration and Capture: Pocahontas.

Smith desires to find passage to Pacific Ocean. This idea still dominant in minds of adventurers. Smith explores country with some followers. Smith's absence. Murder of his men and capture of Smith by Indians. Smith's ingenuity and calmness in the hour of danger. Shows Indians his compass, talks of sky, stars, moon. Indians think him a wizard. Show him around the other Indians tribes as a curiosity. Decide on manner of disposal. Killing of Smith. Pocahontas. Released and sent back to the colonists with an escort.

Governor of Colony.

Elected governor. Institutes wise laws. New emigrants arrive. Ship glittering dust home. Plot of Indians to massacre colony. Smith's discovery of it. "Corn or your life." "He who does not work shall not eat." Swearing cured. Accident to Smith. Return to England. Further explorations. New England. Death. Debt of colonists to Smith. To his efforts was due future success of the colonies.

Lesson 2.

Review preceding. Miles Standish.

In 1620 a band of exiles "cast their lot upon the wild New England Shore." Origin of name. Compare new colony with that of Jamestown—(a) character of colonists; (b) purpose of settlement.

Pilgrims and Puritans.

Significance of name. Puritans in England. Religious beliefs. Emigrate to Holland. Religious freedom there. Short talk with reference to our own country on Religious Toleration. Reasons for emigrating from colony. Number of immigrants. Speedwell, Mayflower. Miles Standish the soldier organizes a company.

Miles Standish.

Not a Puritan. Lived in Holland, under whose flag he fought against Spain. Appearance—short of stature, but strong athletic, energetic. Organized a militia, giving each man a coat of mail, sword and matchlock. Landed in New England November, 1620, at what is now Cape Cod.

Search for Home.

Miles Standish and some followers explore coast. Find Indian corn, which they had never seen. Step into a deer trap. After a month's search a cleared space was found. Landing on famous Plymouth Rock, December 21, 1620. First winter sufferings undergone. One-half colony died. Among whom were the Governor Carver and the wife of Standish. Work of Standish in caring for sick. Courtship of Miles Standish. Wooing by proxy. John Alden wins prize.

Standish and the Indians.

Friendly Indians—Samoset, Squanto, Massasoit. Taught colonists how to catch eel, to hunt, fish, plant corn. Celebration of first harvest. Thanksgiving Day. Hostile Indians—Canonicus. Arrows tied in snake's skin, and snake skin full of bullets. An effective answer.

Standish's other fights with Indians, called "the stabber." Death of Standish. Burial on "Captain's Hill."

Lesson 3.

Review the two colonies.

FOURTH WEEK.

Lesson 1.

Review last week's lesson and begin Wm. Penn. First and second days to be occupied with new work. Third lesson monthly test.

William Penn.

Pennsylvania. Origin of name. Who Wm. Penn was. Society of Friends or Quakers. Their beautiful character. Religious persecution in England and in New England. Comparison of Quakers and Pilgrims. Extreme toleration in religious matters. Friendship with the Indians. Their country alone never red with blood shed by Indians. Lessons to be learned from their example. Quaker church in New York City. Manner of worship.

William Penn. How he got grant of land. His father. Resentment of Admiral Penn toward views of his son. Penn tried by jury and acquitted, though judge charged against him. Jury a democratic institution. Penn spreads the doctrine of Quakers. Death of his father. Grant of King Charles.

Penn in America.

Treaty with Indians under the tree "Father Onas." Games treaty never broken. Penn's athletic ability excites admiration of Indians. Philadelphia founded. Meaning of name.

Penn's return to England. False imprisonment for debt. That custom then in vogue in England. Release. Broken in health. Death.

Lesson 3.

Test of Month's Work, 25 Questions.

1. In what country was Columbus born?
2. Under whose flag did he sail?
3. What country did he seek?
4. In what direction did he sail?
5. Tell of some of the hardships Columbus endured before aid was given him.
6. How many voyages did he make?
7. What part of the new world did he discover?

8. Did Columbus ever know that he discovered a new world?
9. In what condition did Columbus spend his last years?
10. Where is he buried?
11. What did De Soto discover?
12. What was he looking for?
13. What distinction has La Salle?
14. What was the result of his voyage?
15. Where was the first English settlement made?
16. Who was the leader of the colonists?
17. What were some of the wise laws he enacted?
18. Tell the story of Pocahontas.
19. Who were the Pilgrims, and why were they so called?
20. Who was the soldier of the colony?
21. Why did they come to America?
22. Tell the story of Priscilla.
23. Tell the story of the "snake-skin and bullets."
24. Who were the Quakers?
25. What country did they settle?

SECOND MONTH.

Wolfe and the overthrow of Canada. Benjamin Franklin, George Washington, Lafayette, Paul Jones, Hale, Arnold.

FIRST WEEK.

Lesson 1.

Wolfe and the Overthrow of Canada. Introduction.

Struggle inevitable. French settling Southwest. English from sea coast westward. Clash came, called French and Indian War. Washington's part just to be mentioned. Greatest battle of war was Capture of Quebec.

Importance, impregnability. Desire for capture. The two commanders. Scene on the eve before battle. Wolfe and his soldiers quietly sailing down the river. "The paths of glory lead but to the grave." Discovery of unguarded ascent. Quiet climb of English. Scene in morning. French and English armies face to face. Battle. Wolfe's bravery. Twice shot, refuses to retire. A third shot in the breast lays him low, and he is carried to the rear. (Picture by Benj. West among the Perry Pictures may be shown.) Joyous shouts of, "They fly! they fly!" "Who—they?" asked Wolfe. "The French." "Egad they fly in every direction!" was the answer. Wolfe's happy death. Montcalm also fatally wounded. His death and reason for his happiness. Result—France left without a vestige of glory in New World. New France a name. England master of America, until evicted by the colonies.

Lesson 2.

Review; begin Benjamin Franklin. Introduction.

Study life of a statesman not a warrior. Played great part in history of the country in an advisory capacity. His two services—one to the world, second to the United States.

Boyhood and Apprenticeship.

His home life. Father's trade and dislike for it. Desire to go to sea, also learn. Apprentice to his brother. His indefatigable industry. Reading at night. His learning how to write good English. Stories from boyhood as told in Autobiography. "Franklin and the wharf." "Man with an axe to grind." "Story of the whistle." Contributes secretly to the newspaper of his brother. Pleasure at the praise of his brother. Harsh treatment at his brother's hands. Management of his brother's paper when he is thrown into prison. Release of his brother, and again his usual harsh treatment. Resolves to leave him.

Franklin in Philadelphia.

Arrives in New York—in Philadelphia. Hardships endured in the journey. Ludicrous appearance in Philadelphia, with clothes in pocket and rolls under his arm. Seen by his future wife. Finds work in printer's office. Profitable spending of spare time in reading and pleasant associations. Goes to London at request of Governor. Unsuccessful there, and returns to Philadelphia. Sets up for himself. His modesty the remark of the town.

Lesson 3.

Franklin the Many-Sided.

1. Publication "Poor Richards' Almanac." Causes of its popularity. Clever sayings.
2. Founding first public library in Philadelphia.
3. Fire-place invention.
4. Discovery of sameness of electricity and lightning. Ingenious simplicity of the discovery. Its effect. Building of rods. Fame of Franklin. Dr. Franklin.
5. Service in the Revolution.

Short talk on desirability of French aid. Why Franklin was sent. Knowledge of French, his wit and simplicity in the gay French Court. Success of his mission. Other services to United States. Declaration of Independence. University of Pennsylvania. The closing years of a long and fruitful career. Lessons of industry and cheerfulness from his life.

SECOND WEEK.

Lesson 1.

Washington. "The Father of His Country."

Boyhood. Birthday and year to be known by the class. Home influences of mother. Early qualities. Leadership, endurance. Battle with colt. Neatness. Fifty rules of behavior. His methodical manner temperament.

Youth. Becomes surveyor. Value of this in later life. Life in the woods, food, shelter, Indian war dance. Military lessons of fencing. Trouble between French and English. Mission of Washington.

Washington in French and Indian War.

As messenger to French. Perilous journey on account of time of year. Washington and his guides. Deliverance of message. Answer. Journey homeward. On foot. Treachery of Indian guide. Accident on Allegheny River. Stopping at home of Indian trader. Purchases a horse and reaches home.

Braddock. Over-confidence of English general. His ignorance of Indian manner of fighting. Scorns Washington's advice. March toward the Great Meadows. Sudden attack of French and Indian War. Consternation of English at sudden appearance of tomahawks and arrows. Braddock wounded. Washington's bravery. Two horses shot under him. Four bullets through his coat. Rallying of the broken ranks, saving them from annihilation. End of war. Reference to Wolfe.

Lesson 2.

Washington in Revolution.

Short talk on causes. Selection of Washington as commander-in-chief. Washington Elm: Long Island. Retreat. Gloom of Americans. Hessians at Trenton. What they were and why hired. Washington resolves to attack them. Celebration of Christmas by the Hessians. Washington crosses the Delaware and surprises the reveling troops. One thousand prisoners taken without the loss of a man. Encouragement of Americans. Escape from Trenton. Deception of Cornwallis. Battle of Princeton. Cornwallis waits too long to "bag the fox."

Other victories. Yorktown. Presidency. Death. The noblest and most unselfish American of his time.

Lesson 3.

Review Washington.

THIRD WEEK.

Lesson 1.

Paul Jones.

Revolution fought on land. A few battles on sea. Jones, greatest naval commander of war. England mistress of the sea. Jones called "pirate" owing to his continued harassing of British merchantmen. Early life. A Scotchman emigrated to America. Showed fondness for sea when young. Sailor on Scotch vessel engaged in American trade. At eighteen commanded a vessel that traded with the West Indies.

Paul Jones settled in Virginia. Distinction of being the first man to hoist the national flag over a vessel. Daring exploits. Worrying the English. Engagements of the "Alfred" and the "Drake." "Bon Homme Richard." Reason for name. Franklin's aid in securing vessel. Meets the "Serapis" off the coast of England. Battle. Daring act of Jones in closing up against British. Battle fought by moonlight. Bad condition of Jones' ship. Jones asked to surrender. His patriotic reply. Hand to hand combat. Throwing of grenades into British vessel. Surrender of British and sinking of Jones' ship. Effect of victory throughout world.

Lesson 2.

Lafayette and French Aid.

Refer to Franklin's service in getting France to aid us. Before that Lafayette joined us. His nobility. His ardent patriotism. Fitting out his own ship to embark for America. Arrival in Philadelphia. Friendship with Washington. Engagements. Battle of Brandywine; wounded there. Returns to France in 1778 honored and respected. Helps in persuading the French King to aid us. Returns to America in 1780. Lafayette at Yorktown. Visit in 1824. Joy at being seen again in America. Visits Washington's tomb at Mt. Vernon. Death in 1854. Washington and Lafayette Monument in Paris as a tribute to the friendship of both men. Monument in New York City.

Lesson 3.

Review Paul Jones, Lafayette.

FOURTH WEEK.

Lesson 1.

Hale and Arnold.

Review from Wolfe the other two lessons.

Benedict Arnold "The Traitor." Saddest chapter in American history. Dark hour in American fortunes blackened by the traitorous conduct of one of its bravest men. Arnold's bravery at Quebec. March through the snows.

and woods of Maine. Wounded at Quebec. Conduct at Saratoga; victory due to him. His fame had he received his death-wound there. Plots against the United States. Reasons. Extravagances at Philadelphia. Reprimanded by Washington. Plans revenge by selling West Point. Its importance. Arnold asks for command of West Point, and Washington gives it to him. Opens negotiations with Clinton. André receives plans. Secretes them in his boots. Stopped by three men who can not be purchased. Discovery of papers. Notification to Washington. Arrest of André. Escape of Arnold. André shot. Arnold's future life a miserable one. Died in England, friendless and alone.

A brighter page is the one that recites the heroic death of Hale. Desire of Washington for knowledge. Volunteering of Hale for the task. Disguise successful. Returns on his homeward journey. Apprehended. Sentenced to be hanged. His last honors and shameful treatment by the British. Bible taken away. His letters to his mother and sisters torn. His heroic manner of meeting death. Last words.

Lessons 2 and 3.

Review of month's work.

MONTHLY TEST.

1. Who won the battle of Quebec?
2. What was the result of the war?
3. What great discovery did Franklin make?
4. What service did he render the Americans during the Revolution?
5. In what business was Benj. Franklin engaged?
6. Name some clever sayings or stories written by Franklin.
7. When was Washington born?
8. On what perilous journey was he sent?
9. Who was General Braddock?
10. What faults did he have?
11. How did Washington conduct himself in this battle?
12. What battle did Washington win Christmas night, 1776?
13. Who were his enemies?
14. Name some other battles fought in the Revolution by Washington.
15. Why is Washington called the "Father of His Country"?
16. What honor did Washington receive after the war?
17. Who was the great naval commander of the Revolution?
18. What was the name of his ship?
19. What famous words did he utter when asked to surrender?
21. What Frenchman helped us in the Revolution?
22. Who was Benedict Arnold?
23. Why did he plot against the United States?
24. How did the British treat him?
25. What were his last words?

Plan of Work and Model Compositions—6A Grade.

BY ELIZABETH H. HALE AND SIDNEY M. FUERST.

PLAN OF WORK.

40 *Lessons During the Term.*

The order of exercises should be changed to suit local conditions.

Lesson 1—Oral Reproduction.
“ 2—Narration. Model, historical event, studied and reproduced.
“ 3—Imitation of the above.
“ 4—Oral Reproduction.
“ 5—Narration. Historical, narrative poem, studied and outline made.
“ 6—The story reproduced.
“ 7—Biographical narrative studied and reproduced.
“ 8—Imitation of the above.
” 9—Description of an object studied and reproduced.
“ 10—The above imitated.
“ 11—Oral reproduction. Report.
“ 12—Description of a scene studied and reproduced.
“ 13—Imitation of the above.
“ 14—Oral Reproduction. Report.
“ 15—Description of a picture studied and reproduced.
“ 16—The above imitated.
“ 17—Oral reproduction.
“ 18—Description of a person studied and reproduced.
“ 19—Imitation of the above.
“ 20—Original narrative written. A visit to a factory or other place of interest.
“ 21—Oral reproduction.
“ 22—Invention. Short story made longer.
“ 23—Invention. Short story made longer.
“ 24—Invention. Individual pictures studied and the stories (imagined) written.
“ 25—Invention. Another picture studied.
“ 26—Invention. Imaginary biography.
“ 27—Invention. Another imaginary biography.
“ 28—Invention. Scene studied and change made.
“ 29—Scene studied and change made by pupils.
“ 30—Model letter studied and imitated.
“ 31—Model letter studied and imitated.
“ 32—Model letter studied and imitated.
“ 33—Original narrative. (Correlated with grade work.) A Visit to a Fire House.
“ 34—Exposition. Explanation of a process. Studied and reproduced.
“ 35—Exposition. Imitation of the above.

Lesson 36—Exposition. How to Play a Game. Studied and reproduced.
" 37—Exposition. Imitation of above.
" 38—Imaginary conversation carried on between two people.
" 39—Description. Study of description of a country.
" 40—Imitation of the above.

Lesson 1.

ORAL REPRODUCTION.

Current events; incidents witnessed in daily life, etc.

Lesson 2.

NARRATION—HISTORICAL EVENT.

Model studied and reproduced.

DISCOVERY OF THE HUDSON RIVER.

Two years after the English emigrants landed at Jamestown, Virginia, Henry Hudson, an English sea captain, made a famous voyage. He was hired by a Dutch trading company in Holland or the United Netherlands. They sent Captain Hudson to America to see if he could find a passage or opening through which he could sail to the Indies.

While he was searching for such a passage, he entered the mouth of a noble river. After he had sailed up the stream about a hundred and fifty miles, he found that the water was not deep enough for him to go much farther. For this reason he turned about and sailed back to Europe.

The Indians of that part of the country called the stream he had explored the "River of the Mountains." They gave it that name because the lower part of it winds among hills, and later flows past the cliffs of the "Palisades." To-day we call that river the Hudson.

Lesson 3.

NARRATION.

(Imitation of model in lesson 2. Discovery of the Mississippi River, the St. Lawrence River, or the Pacific Ocean.)

Lesson 4.

ORAL REPORT.

Lesson 5.

NARRATION.

(Study of historical poem "The Liberty Bell.")

THE LIBERTY BELL.

What girl or boy is there in all this broad land who does not know the story of the wonderful old Liberty Bell, how it rang out the glorious tidings of the adoption of the Declaration of Independence? How this message came down from the steeple as though sent from the skies to the eager and cheering crowds in the streets of Philadelphia? How the bell, now old and cracked, bears upon its surface those words which can never be uttered without stirring the pulse of every patriot, "Proclaim Liberty throughout all the land, to all the inhabitants thereof."

SELECTIONS.

INDEPENDENCE BELL, JULY 4, 1776.

There was tumult in the city,
  In the quaint old Quaker's town,
And the streets were rife with people
  Pacing, restless, up and down;
People, gathering at corners,
  Where they whispered, each to each,
And the sweat stood on their temples
  With the earnestness of speech.

As the bleak Atlantic currents
  Lash the wild Newfoundland shore
So they beat against the State House—
  So they surged against the door;
And the mingling of their voices
  Made a harmony profound,
Till the quiet street of Chestnut
  Was all turbulent with sound.

"Will they do it?" "Dare they do it?"
  "Who is speaking?" "What's the news?"
"What of Adams?" "What of Sherman?"
  "Oh, God grant they won't refuse!"
"Make some way there!" "Let me nearer!"
  "I am stifling!" "Stifle, then!
When a nation's life's at hazard,
  We've no time to think of men!"

So they beat against the portal,
  Man and woman, maid and child
And the July sun in heaven
  On the scene looked down and smiled,
The same sun that saw the Spartan
  Shed his patriot blood in vain,
Now beheld the soul of Freedom,
  All unconquered, rise again.

See! see! The dense crowd quivers
  Through all its lengthy line,
As the boy beside the portal
  Looks forth to give the sign!
With his small hands upward lifted,
  Breezes dallying with his hair,
Hark! with deep, clear intonation,
  Breaks his young voice on the air.

Hushed the people's swelling murmur,
  List the boy's strong, joyous cry!
"Ring!" he shouts; "ring, grandpa,
  Ring! Oh, ring for Liberty!"
And, straightway, at the signal.
  The old bellman lifts his hand
And sends the good news, making
  Iron music through the land.

How they shouted! What rejoicing!
  How the old bell shook the air,
Till the clang of Freedom ruffled
  The calm, gliding Delaware!
How the bonfires and the torches
  Illumined the night's repose,
And from the flames, like Phoenix,
  Fair Liberty arose!

That old bell now is silent
  And hushed its iron tongue,
But the spirit it awakened
  Still lives—forever young.
And, while we greet the sunlight
  On the fourth of each July,
We'll ne'er forget the bellman
  Who, 'twixt the earth and sky,
Rung out Our Independence,
  Which, please God, shall never die!

Lesson 6.

NARRATION.

(Reproduction of the story of historical poem studied in lesson 5.)

Lesson 7.

NARRATION.

(A biographical narrative. Studied and reproduced.)

GEORGE WASHINGTON.

George Washington was born in Virginia on February 22, 1732. His early boyhood was a healthy, happy one. When George was eleven years old his father died. The boy's training now devolved upon the mother, a woman of strong character.

As a youth George was grave and shy but keenly observant. He had a strong will and a swift temper. Mrs. Washington wished her son to become a Virginia planter, so his education was of the most practical kind. The boy became greatly interested in military affairs and desired to enter the navy, but his mother would not consent. Then he became a surveyor and obtained a government position. His work in field and wilderness taught lessons which were of great value to him in his later experiences. In the French and Indian War Washington played an important part. His success was such that when the Revolution began the Continental Congress at once appointed him commander-in-chief of the American Army.

In this struggle he so endeared himself to the people that when a president was to be chosen all eyes turned toward him, and he was elected first President of the United States. After serving eight years he returned to his home at Mount Vernon, where he died in 1799.

Washington is remembered in the words of General Henry Lee, as

"First in war, first in peace, and first in the hearts of his countrymen."—*Adapted from Townsend's "Our Presidents."*

Lesson 8.

NARRATION.

(Imitation of model in Lesson 7.)

Lesson 9.

DESCRIPTION.

(Description of an object. Study and reproduce.)

THE STATUE OF THE OLYMPIAN ZEUS.

The statue of the Olympian Zeus was a fine piece of work. The great sculptor Phidias made it as beautiful and grand as he could. It was in honor of the mighty Zeus, the father of all the gods.

The throne upon which this figure was seated was made of cedar-wood and ebony, and richly set with precious stones.

The face, the chest, the arms, and the feet of the statue were of ivory; the hair and beard were of solid gold with jeweled flowers. In one outstretched hand stood a golden figure of the Winged Victory; in the other was a mighty scepter. Forty feet high was this grand statue. He sat there with a look sublime and unapproachable, yet not stern nor angry.

The old Greeks used to say, "Not to have seen the Olympian Zeus was indeed a misfortune to any man."—*From Andrew's "Ten Boys."*

Lesson 10.

DESCRIPTION.

(Imitation of model in Lesson 9. Description of a statue in New York or vicinity.)

Lesson 11.

(Oral Reproduction. Report.)

Lesson 12.

DESCRIPTION.

(Description of a scene; model studied and reproduced.)

VIEW FROM A PIER IN GENEVA HARBOR.

The pier commands a view of the lake and town. How crystal clear is the water of the lake!

Forty miles away is the king of Alpine peaks, Mount Blanc. This snow-crowned monarch is most beautiful as it lifts its mighty mass towards heaven.

Turning our eyes toward the town we see the lake shore in the form of a crescent with a park along its inner circle. On either side of the park, hotels and mansions front the lake. Their brilliant cream color makes a fine contrast with the blue of sky and water. Beyond the park and hotels the city rises in a pile. Far in the west the hills make a dark line against the sky.

On the lake steamboats cut the blue water and leave a trail of white foam. Heavy barges loaded with stone drift past.

Here the river Rhone issues from the lake with a current swift and powerful. Looking down the river we see a vista of bridges.—*Adapted from Little's "Journeys in Switzerland."*

Lesson 13.

DESCRIPTION.

(Imitation of model in Lesson 12. View from an East River Bridge.)

Lesson 14.

(Oral Reproduction. Report.)

Lesson 15.

(Description of a picture. Model, study and reproduce.)

TROYON'S RETURN TO THE FARM.

The Return to the Farm gives us a bit of French country life. It is the simplest thing in the world, just a group of farm animals coming home down a long lane at the close of day.

There is a grassy roadway with embowering trees; a wide, delightful reach of fields; a swampy little pond where they love to linger.

In a general way the animals are all coming toward us, yet Troyon has managed to make us see them in a great many different positions. This brings out all their characteristic proportions and their variety of curves and angles.

There is a touch of the late afternoon sunshine. It lays long horizontal shadows over the ground. As we look at the picture we seem to see the sun steadily sinking. We feel that it is time for the animals to move on toward home.—*Adapted from Emery's "How to Enjoy Pictures."*

Lesson 16.

DESCRIPTION.

(Imitation of model in Lesson 15. Ploughing. (Rosa Bonheur.)

Lesson 17.

(Oral Reproduction. Report.)

Lesson 18.

(Description of a person studied and reproduce.)

THE OLD APPLE DEALER.

From "Mosses from an Old Manse."

He is a small man, with grey hair and grey stubble beard, and is invariably clad in a shabby surtout of snuff color, closely buttoned, and half concealing a pair of gray pantaloons; the whole dress, though clean and entire, is evidently flimsy with much wear. His face, thin, withered, furrowed, and with features which even age has failed to render impressive, has a frost-bitten aspect.

He sits on a bench in the depot room; and before him, on the floor, are deposited two baskets, of a capacity to contain his whole stock in trade. Across, from one basket to the other, extends a board, on which is displayed a plate of cakes and gingerbread, some russet and red-cheeked apples, and a box containing variegated sticks of candy; together with that delectable condiment, known by children as Gibraltar rock, neatly done up in white paper. There is likewise a half peck measure of cracked walnuts, and two or three tin half-pints or gills, filled with the nut kernels, ready for purchasers. Such are the small commodities with which our old friend comes daily before the world ministering to its pretty needs and little freaks of appetite, and seeking thence the solid subsistence—so far as he may subsist—of his life.—*Nathaniel Hawthorne.*

Lesson 19.

DESCRIPTION.

(Imitation of model in Lesson 18. Description of a similar person found in the vicinity. A seller of newspapers, of fruit, of peanuts.)

Lesson 20.

NARRATION.

(Excursion to reservoir, hat factory or some other place of interest.)

Lesson 21.

(Oral Reproduction. Report.)

Lessons 22 *and* 23.

INVENTION.

(Short story made longer.)

Boys—The Broken Vase.
Girls—Little Bessie.

One day little Tom played with his ball in the parlor while his mother was out, and he broke a pretty vase. Two weeks later he surprised his mother by presenting her with a vase similar to the one he had broken.

How did he get it?

Bess's mother, a poor widow, often went out to do a day's washing. At such times she would leave her little girl's dinner on a stand so that she could get it as soon as she came home from school. One day she came and opened the door; she saw a chair upset and her bread and milk bowl empty.

1. What had happened during the mother's absence?
2. What did Bess do?

Lessons 24 and 25.

INVENTION.

(Individual picture stories.)

Lessons 26 and 27.

INVENTION.

(Imaginary biographies.)

The following compisitions were written by children ten to twelve years of age. They are placed here not as models, but to show what the children can do.

The Story of a Cent.

My home was in the mountains. It was dark in my home. One day I heard a noise above me and I looked out and saw it was some men with lights in their hats. They came to dig me out and they put me in a little car which took me to the top of the earth.

Then I was put in a wagon and was taken to a large house, where I was cleaned. From there I was taken to another house, where I was put in a great machine on one part of which was a picture of an Indian's Head and on the other were some words which said "One Cent."

The next day was pay-day, and I was given to one of the men who dug me out of my home. Then the man took me to a candy store and used me to pay for some candy for his children. Soon a boy came in and bought five cents' worth of candy and he gave the man ten cents. The man handed me to him with some others like me. The boy took me out because I was the brightest and bored a hole in me and hung me on a watch chain. When I became old and dull he threw me into a box which was dark and has left me there ever since. I wonder when he will take me out.

Story of a Horse.

I am so beautiful that everybody calls me "Beauty." I once had a good master who always treated me kindly. One day, while I was eating oats and waiting for my master, I heard footsteps, and presently he and a man entered my stall. The man examined my mouth and looked me all over. "Well," said my master, "how do you like her, Mr. Jones?" "First rate," answered the man. "I will give you one hundred dollars for her." "Done," said my master.

The man gave my master the money and my master handed me over to him. I was very sorry to leave my master, but I could not speak, so I was forced to go.

Mr. Jones mounted me and we were off in a moment in the direction of Mr. Jones' house. We soon reached the stable, which was neat and clean. Mr. Jones treated me very kindly. Although I had to work pretty hard, he gave me plenty to eat and I got along very well.

One morning he drove me to another stable, and what was my joy to find my mother there. She was very glad to see me, and we lived very happily together ever after.

Story of a Mouse.

I lived in the pantry for more than six months. One night I ran away from my mother and sisters. I was wandering around the pantry when I found in a trap a piece of cheese. It smelled so good that I thought I would go in and get it, but when I tried to get out I could not.

I cried all that night and had nothing to eat all the next day. Finally a man came in and took me and the trap out into the kitchen, where a big black cat was sitting by the stove, and he called the cat and carried me out to the field and let me out of the trap. I ran, and the cat ran after me, but I was so frightened that I ran faster than I ever did before. Now I live in the fields. If I had been a good mouse I might not have been caught in the trap, and might still be living with my sisters and brothers.

The Story of a Faithful Horse.

One day when I went to a stable to hire a horse, in one of the stalls I saw a fine black Arabian horse. I went into the stall and patted him on the back. He was a fine horse with a coat and a mane as soft as silk. I sat down on a bench one side of the stall, and while I was watching him I fell asleep. My dream was the story of the horse that stood before me.

"Once I was a fine black charger. My master was very kind, so we got along very nicely. At that time Arabia was at war with the Tartars. My master joined the Arabian army and was soon captured. I determined to rescue him, and finding their camp, took him by the belt and carried him home. Afterwards I was sold and here I am. But wake up if you want to hire me," he said. I hired him and had a very pleasant ride on him.

Lesson 28.

(Scene studied and changed. Model: "Fulton Street (Brooklyn) by Night." The children are required to write a description of "Fulton Street (Brooklyn) by Day."

Fulton Street by Night.

Fulton Street by night presents a different scene from that exhibited by day. The stores are closed and their brilliantly illuminated show windows invite the passer-by to stop and gaze, or in the case where the shades are drawn, the patch of darkness in front of them is relieved only by the glare of the electric lights, placed here and there along the curb. The restaurants, theatres and other public places add their share of light.

Between 7.30 p. m. and 8 p. m. the cars are crowded with people on their way to places of amusement, but the street in winter, on nights other than Saturday, is almost deserted by pedestrians. When the theatrical performances and the lectures are over, gay throngs make their way to the nearest corner and wait for the car that shall bear them to their homes.

The office-buildings and the public buildings, too, are closed and their massive doors stand like grim and silent sentinels on guard. Inside, the janitors and cleaners are at work, getting the building ready for the morrow.

Lesson 29.

INVENTION.

(Change of scene. Model: Snowflakes. Study the model. Then write in imitation of the model "A Rainy Day."

SNOWFLAKES.

There is snow in yonder cold gray sky of the morning. A few feathery flakes are scattered widely through the air. These are not the big flakes, heavy with moisture, which melt as they touch the ground, and are partentous of a soaking rain. It is to be in good earnest a wintry storm.

The soil has been frozen for weeks and is prepared to sustain its burden of snow. The landscape will lose its bleakness and acquire a beauty of its own, where Mother Earth, like her children, shall have put on a fleecy garb of her winter wear.

The winter day passes. The storm has raged without abatement. As the afternoon declines, greater masses are tossed about. On the window sill there is a deep layer of snow. The garden is one unbroken bed of it. On the streets the gusts of wind have piled it up in white heaps. A few vehicles make their toilsome progress through the unbroken drifts.

Evening spreads its deepening veil over the scene. Still the storm rages and rattles the windows as we close the shutters and take a farewell glance at nature in her snowy garb.—*Hawthorne's "Twice Told Tales."* (*Adapted.*)

Lesson 30.

MODEL LETTERS—STUDY AND IMITATE.

(*Informal Letter of Invitation.*)

96 Bedford Ave.,
BROOKLYN, Dec. 4, 1904.

DEAR HARRY:

We are going to Irving's Cliff this afternoon for wild flowers.

Will oblige us by making one of our little party? If so, we shall call for you at two o'clock. Do go.

Yours affectionately,

——— ———————.

Please answer by bearer.

—*From Westlake's "How to Write Letters."*

Lesson 31.

(*Letter Applying for a Position.*)

876 Grand Ave.,
Brooklyn, N. Y.

The Bedford Co.,
Bedford Ave. and Fulton St.,
Brooklyn, N. Y.

Gentlemen:

Having learned that a cash boy is wanted in your store, I hereby apply for the position.

I am a member of a 6A class in Public School No. 190, Brooklyn. You will find enclosed testimonials from Horace Brown, principal of the school, and from my teacher, Joseph Stockton. I also refer you to James Wallace, 196 Dekalb Avenue.

Should you wish to see me I shall be glad to call upon you at such time and place as may be most convenient to you.

Respectfully yours,

——— ———————

Lesson 32.

(*A Friendly Letter.*)

174 St. James Place,
Brooklyn, Sept. 9, 1904.

My dear Brother:

Your beautiful birthday gift almost reconciles me to the fact that I am to-day a year older than I was last May.

How did you know what I wanted? Surely some good angel must have whispered the secret to you. However that may be, you anticipated one of my fondest wishes, and I thank you with my whole heart.

Your loving sister,

——— ———————

—*From Westlake's "How to Write Letters."*

Lesson 33.

NARRATION.

(Visit to a fire engine house.)

Lesson 34.

EXPOSITION.

(Model studied and reproduced.)

How to Make a Horse Hair Watch Guard.

Select a quantity of long hair of the color desired. Make this into a switch about the eighth of an inch thick by tying one end in a simple knot. Pick out a good, long hair and tie it around the switch close to the knotted end. Then take the free end of the single hair in your right hand and pass it under the switch on one side. This forms a loop through which the end of the hair must pass after it is brought up and over from the other side of the switch. Draw the knot tight by pulling the free end of the hair. Every time this operation is repeated a wrap and a knot is produced. The knots follow each other around the switch, giving it a pretty ornamented appearance.

When one hair is used up, select another, knotting with it as with the first. Be careful to cover and conceal the end of the first hair and to make the knots on the second commence where the former stopped.

A guard made of white horsehair looks as if composed of spun glass and produces a very odd and pretty effect. A black one is very genteel in appearance.—*From American Boy's Handy Book.*

Lesson 35.

EXPOSITION.

(Imitation of model in Lesson 35. Making of some article constructed by the pupils in the class-room.)

Lesson 36.

EXPOSITION.

(Model studied and reproduced.)

How to Play Handball.

Handball is a game played by boys or men. A ball and something against which to throw it are needed. Boys often use any blank wall or fence to play against, but when grown men play they have courts built for the purpose.

The ball is thrown against a wall and then struck with the palm of the hand as it rebounds. The object is to keep it from the ground as long as possible. The player who keeps the ball in the air, between his hand and the wall the longest time, wins.

Lesson 37.

EXPOSITION.

(Imitation of a model in Lesson 36. Select some game with which the pupils are familiar.)

Lesson 38.

INVENTION.

(Have pupils write an imaginary conversation as carried on between two people. Write in dialogue form.)

Lesson 39.

DESCRIPTION.

(Model studied and reproduced. Description of a country.)

ENGLAND.

England is the richest kingdom in the world. If we were to visit it we would find many places of interest and beauty.

On the north the country is separated from Scotland by the Cheviot Hills. South of these hills are high, dreary, wild moorlands with little vegetation except grass and heather. Farther are plains and valleys. Much coal and iron are found in the mines here.

The northeastern part of England is noted for the beautiful lakes and mountains. This is known as the "Lake Country," where three of England's most celebrated poets had their homes.

Around the eastern coast are quaint little fishing villages and towns. The cliffs are of chalk. They have been worn into many queer forms by the waves.

In the southern part of England is the great plain of Salisbury, with pleasant, prosperous farms and fertile fields.

In the western end of the country is a bleak, bare, hilly section with a wild rugged coast. Here are excellent mines of tin and copper. Some of these mines extend out under the sea.—*Adapted from "Little Journeys to England."*

Lesson 40.

DESCRIPTION.

(Imitation of model in Lesson 39. Germany.)

Typical Examples—6B Grade.

By GRACE E. HUNT, P. S. 55, Brooklyn.

FIRST WEEK.

Monday, September 12, 1904.

(1.)	Interest on $500 at 4% for 3 years.	$60 interest
(2.)	Interest on $2,750 at 10% for 2 years.	$550 interest
(3.)	Interest on $640 at 5% for 1 year 6 months.	$48 interest
(4.)	Interest on $180 at 3% for 1 year.	$5.40 interest
(5.)	Interest on $750 at 6% for 6 months.	$22.50 interest

Monday, September 12, 1904.

(1.)	Interest on $2,450 at 5% for 6 years.	$735 interest
(2.)	Interest on $6,075 at 4% for 4 years 3 months.	$1,032.75 interest
(3.)	Interest on $2,875 at 6% for 2 years 2 months.	$373.75 interest
(4.)	Interest on $4,876 at 6% for 3 years.	$877.68 interest
(5.)	Interest on $7,400 at 5% for 4 years 6 months.	$1,665 interest

Tuesday, September 13, 1904.

(1.)	Cost $186, gained 16⅔%, find selling price.	$217 selling price
(2.)	Cost $3,600, gained 8⅓%, find selling price.	$3,900 selling price
(3.)	Cost $50, loss 12½%, find selling price.	$43.75 selling price
(4.)	Cost $560, loss 37½%, find selling price.	$350 selling price
(5.)	Cost $25.50, loss 20%, find selling price.	$20.40 selling price

Tuesday, September 13, 1904.

(1.)	Cost $2,050, loss 12½%, find selling price.	$1,793.75 selling price
(2.)	Cost $6,544, gained 75%, find selling price.	$11,452 selling price
(3.)	Cost $4,546, gained 8⅓%, find selling price.	$4,924.83⅓ selling price
(4.)	Cost $101.20, loss 60%, what is the selling price?	$40.48 selling price
(5.)	Cost $9,074, loss 33⅓%, what is the selling price?	$6,049.33⅓ selling price

Wednesday, September 14, 1904.

(1.)	.032) 6.4 =	200
(2.)	1.5 × .0005 =	.00075
(3.)	2.07 — 1.1002 =	1.9698
(4.)	(.23 × 100) ÷ 2.3 =	10
(5.)	.0096 ÷ 1.6 =	.006

Wednesday, September 14, 1904.

(1.)	1.430) 25.6 =	(4 decimal places)	17.9020 140/143
(2.)	.7082 × 95.6 =		67.70392
(3.)	(4.671 × .0048) ÷ 2.242 =	(6 decimal places)	.010000 400/1121

(4.) Change fraction to decimal and add.

½ =
⅓ =
¼ =
⅕ =
⅙ =
⅛ =
1/20 = 1.625

(5.) Divide 6.03451 by .206 = (4 decimal places) 29.2937 39/103

Thursday, September 15, 1904.

(1.) If 28 equals 25% of a number, what is 200% of it? 224
(2.) 20% of a number is 21, what is the number? 105
(3.) 40% of a number equals .18, what is 1% of it? .45
(4.) 13% of a number equals 390, what is 150% of it? 4,500
(5.) 6¼% of a number equals 3, what is ¼ of the number? 12

Thursday, September 15, 1904.

(1.) If 202 is 50% of a certain number, what is 8⅓% of it? 33⅔
(2.) If 73% of a number is 2,920, what is 220% of it? 8,800
(3.) If 66⅔% of a number is 502⅔, what is 187½% of it? 1,413¾
(4.) If 60% of a number equals 761, what is 62½% of it? 2,378⅛
(5.) 365 is 4% of my number, what is 144% of it? 13,140

Friday, September 16, 1904.

(1.) .025) .00075 .03
(2.) Interest on $2,550 at 4% for 1 year 6 months. $153 interest
(3.) If 87½% of a certain number is 147, what is 10% of it? 16.8
(4.) Cost $910, loss 33⅓%, what is the selling price? $606⅔
(5.) How many gallons is 2,310 cubic inches? 10 gallons

Friday, September 16, 1904.

(1.) 3.070)300.6 = (3 decimal places) 97.915 $\frac{95}{307}$
(2.) Interest on $301.50 at 3% for 3 years 1 month. $27.88⅞ interest
(3.) If 23% of a number equals 253, what is 181% of it? 1,991
(4.) Cost $2,468, gained 37½%, find selling price. 3,393.50 selling price
(5.) In 74,689 cubic inches how many gallons? 323 $\frac{76}{231}$ gallons

SECOND WEEK.

Monday, September 19, 1904.

(1.) Interest on $7,075 at 5% for 20 years. $7,075 interest
(2.) Interest on $823 at 6% for 16⅔ years. $823 interest
(3.) Interest on $3,075 at 4% for 50 years. $6,150 interest
(4.) Interest on $800 at 2½% for 90 days. $5 interest
(5.) Interest on $960 at 3⅓% for 60 days. $5.33⅓ interest

Monday, September 19, 1904.

(1.)	Interest on $450 at 4% for 2 years 3 months 15 days.	$41.25 interest
(2.)	Interest on $780 at 5% for 1 year 1 month 1 day.	$42.35⅚ interest
(3.)	Interest on $3,030 at 3⅓% for 3 years 20 days.	$308.6 ⅑ interest
(4.)	Interest on $1,000 at 5% for 3 years 8 months 12 days.	$185 interest
(5.)	Interest on $6,054 at 2½% for 7 months 12 days.	$93.33¼ interest

Tuesday, September 20, 1904.

(1.)	What is ½ 2% of 28?	$0.14
(2.)	What is ⅙% of $35?	$0.05⅚
(3.)	What is ⅔% of $960?	$6.40
(4.)	What is ⅘% of $200?	$1.60
(5.)	What is 1/12% of $144?	$0.12

Tuesday, September 20, 1904.

(1.)	What is ¾% of $2,760?	$20.70
(2.)	What is 1/9% of $9,053?	$10.05⁸⁄₉
(3.)	What is 1/7% of $10.14?	$0.0144⁶⁄₇
(4.)	What is ⅞% of $2,565?	$22.44⅜
(5.)	What is ⅚% of $7,065?	$58.87½

Wednesday, September 21, 1904.

(1.)	Cost $75, selling price $100, gain or loss per cent?	33⅓% gain
(2.)	Cost $48, selling price $60, gain or loss per cent?	25% gain
(3.)	Selling price, $960, cost $1,200, gain or loss per cent?	20% loss
(4.)	Selling price $350, cost, $175, gain or loss per cent?	100% gain
(5.)	Cost $320, selling price, $440, gain or loss per cent?	37½% gain

Wednesday, September 21, 1904.

(1.)	Cost $9,031, selling price $15,051, gain or loss per cent?	66⅔% gain
(2.)	Selling price $49.77, cost $42.66, gain or loss per cent?	16⅔% gain
(3.)	Selling price $7,931, cost $4,532, gain or loss per cent?	75% gain
(4.)	Cost $7,000, gained 150%, find selling price.	$17,500 selling price
(5.)	Cost $1,440, selling price $576, gain or loss per cent?	60% loss

Thursday, September 22, 1904.

(1.)	Reduce $\frac{50}{250}$ to a decimal.	.2
(2.)	Reduce $\frac{77}{231}$ to a decimal.	.33⅓
(3.)	Reduce .024 to a fraction.	3/125
(4.)	Reduce $\frac{600}{720}$ to a decimal.	83⅓%
(5.)	Reduce $\frac{210}{350}$ to a decimal.	.6

Thursday, September 22, 1904.

(1.) Reduce $\frac{1125}{13500}$ to a decimal of 2 places. .08⅓

(2.) Reduce $\frac{121}{142}$ to a decimal of 3 places. .852$\frac{8}{71}$

(3.) Reduce $\frac{47}{265}$ to a decimal of 5 places. .17735$\frac{45}{53}$

(4.) Reduce $\frac{17}{2010}$ to a decimal of 4 places. .0084$\frac{116}{201}$

(5.) Reduce $\frac{501}{601}$ to a decimal of 6 places. .833610$\frac{390}{601}$

Friday, September 23, 1904.

(1.) Interest on $500 at 6% for 120 days. $10 interest

(2.) What is ⅖% of $1,520? $6.08

(3.) Cost $960, selling price $800—gain or loss per cent. 16⅔% loss

(4) Reduce $\frac{450}{9000}$ to a decimal .05

(5.) .00½)$\underline{20.}$ 4,000

Friday, September 23, 1904.

(1.) Interest on $6,540 at 3½% for 5 years 5 days. $1,147.67 11/12

(2.) What is 3/7% of 5,684? 24.36

(3.) Selling price $8,775, cost $9,000, gain or loss per cent. 2½% loss

(4.) Reduce $\frac{5002}{3681}$ to a decimal of 4 places. $\frac{2203}{3681}$ 1.3637

(5.) If 91% of a number equals 8,190, what per cent. of the number is 18,000? 200%

THIRD WEEK.

Monday, September 26, 1904.

(1.) Interest on $600 at 3½% from January 5, 1900, to January 5, 1903. $63

(2.) Interest on $1,200 at 3½% for 4 months. $14

(3.) Interest on $420 at 5% for 2½ years. $52.50

(4.) Interest on $750 at 4% for 10 months. $25 interest

(5.) Interest on $80 at 2½% for 1 month. $0.16⅔ interest

Monday, September 26, 1904.

(1.) Interest on $125 at 4% from February 1, 1890, to April 16, 1891. $6.04⅙ interest

(2.) Interest on $300 at 3% from June 20, 1900, to September 30, 1900. $2.77 7/9

(3.) Interest on $1,500 at 5% from March 5, 1901, to December 26, 1903. $210.62½

(4.) Interest on $2,000 at 5% from June 13, 1900, to September 13, 1904, $425 interest

(5.) Interest on $7,200 at 2⅓% from July 25, 1887, to May 20, 1889. $305.66⅔

Tuesday, September 27, 1904.

(1.) Selling price $246, gained 25%—what is the cost? $205 cost

(2.) Selling price of a piano was $220, I gained 37½%, what did I pay for it? $160

(3.) I lost 33⅓% when I sold for $46, what was my cost? $69

(4.) $1.20 was my selling price, loss 83⅓%, what was my cost? $7.20

(5.) Selling price $3,900, gained 50%, cost? $2,600 cost

Tuesday, September 27, 1904.

(1.) Selling price $80.75, gained 50%, what was my cost? $53.83⅓

(2.) Lost 12½% when I sold for $4,907, what did I pay for it? $5,608

(3.) Sold furniture for $1,530 thereby gaining 70%, what was my cost? $900

(4.) Selling price of a house was $10,500, my loss 6¼%, what was my cost? $11,200

(5.) Selling price was $1,950 which entailed a loss of 2½%, what was my cost? $2,000

Wednesday, September 28, 1904.

(1.) What is 28% of 5,000? 1400

(2.) What is 34% of 200? 68

(3.) What is 17% of 50? 8.50

(4.) What is 82% of 300? 246

(5.) What is 65% of 40? 26

Wednesday, September 28, 1904.

(1.) Find the sum of
25% of 121 =
33⅓% of 720 =
20% of 75 =
16⅔% of 320 =
37½% of 840 = 653.583⅓

(2.) Find the sum of
62½% of 560 =
40% of 35 =
12½% of 69 =
75% of 99 =
8⅓% of 4 = 447.208⅓

(3.) Find the sum of
50% of $10.17 =
66⅔% of $9.14 =
60% of $27.18 =
6¼% of $3.20 =
83⅓% of $32.13 = $45.536⅓

(4.) What is 95½% of 2,104. 2,009.32

(5.) What is 450% of $50.20. $225.90

Thursday, September 29, 1904.

(1.) Cost at $1 a yard to carpet a hall 30 feet by 21 feet, carpet 18 inches wide? $140 cost

(2.)	Cost at $1.25 to carpet a room 66 feet by 30 feet, carpet 18 inches wide?	$550 cost
(3.)	Cost to carpet a room 18 feet by 24 feet at $1.50 a yard?	$72 cost
(4.)	At $1.75 a yard cost to carpet a room 12 yards by 12 feet, carpet ¾ yard wide?	$112 cost
(5.)	Cost at $2 a yard to carpet a room 15 feet by 21 feet?	$70 cost

Thursday, September 29, 1904.

(1.)	Cost at $1.50 a yard to carpet a hall 84 feet by 95 feet, carpet 18 inches wide?	$2,660 cost
(2.)	Cost at $1.75 a yard to carpet an assembly room 95 yards by 175 feet, carpet ¾ yard wide?	$12,930.55 5/9 cost
(3.)	Cost at $1 a yard to carpet a room 75 yards by 84½ yards?	$6,337.50 cost
(4.)	Cost at $1.33⅓ a yard to carpet a hall 40 yards long by 34 feet wide, carpet, ¾ yard wide?	$805.92 26/27 cost

Friday, September 30, 1904.

(1.)	Interest on $930 at 3⅓% from February 5, 1901, to February 5, 1903.	$62 interest
(2.)	Cost at $1.50 a yard to carpet a room 27 feet long by 10 yards wide, carpet 1 yard wide?	$135 cost
(3.)	What is 210% of 20?	42
(4.)	Selling price $1.26, loss 62½%, find cost.	$336 cost
(5.)	Which is greater, and how much? 25% of 60 = 30% of 50 =	Both the same

Friday, September 30, 1904.

(1.)	Find the sum of 83⅓% of 200 = 14 2/7 % of 49 = 90% of 38 = 3⅓% of 126 = 2½% of 90 = 66⅔% of 7 =	218.983⅓
(2.)	Interest on $57.25 at 3½% from June 3, 1856, to September 19, 1856.	$.5899 67/72
(3.)	Cost at $1.20 a yard to cover a floor 42 yards by 11 yards.	$554.40 cost
(4.)	What is 136½% of 493.4?	673.491
(5.)	Selling price $1,638, gained 17%, find cost.	$1,400 cost

FOURTH WEEK.

Monday, October 3, 1904.

(1.)	Amount of $200 at 4% for 50 years.	$600
(2.)	Amount of $33 at 3% for 33⅓ years.	$66

(3.) Amount of $1.40 at 2% for 150 years. $5.60
(4.) Amount of $92 at 5% for 10 years. $138
(5.) Amount of $301 at 2½% for 80 years. $903

Monday, October 3, 1904.

(1.) Amount of $4,150 at 3% for 12 years. $5,644
(2.) Amount of $95.10 at 2½% for 3 years 8 months. $103.81¼
(3.) Amount of $2,500 at 3½% for 1 year 11 months 25 days. $2,673.78$\frac{17}{18}$
(4.) Amount of $750 at 4% from May 8, 1902, to October 1, 1904. $821.91⅔
(5.) Amount of $1,500 at 6% from February 10, 1881, to March 15, 1884. $1,778.75

Tuesday, October 4, 1904.

(1.) Reduce ¾ mile to lower denomination. 240 rods
(2.) Reduce $\frac{1}{10}$ mile to feet. 528 feet
(3.) Reduce ⅝ bushels to quarts. 20 quarts
(4.) Reduce ⅔ gallon to lower denomination. 2 quarts, 1 pint, 1⅓ gills
(5.) Reduce $\frac{11}{12}$ of a square foot to square inches. 132 square inches

Tuesday, October 4, 1904.

(1.) Reduce $\frac{13}{15}$ of a mile to lower denomination. 277 rods, 1 yard, 2 feet, 6 inches
(2.) Reduce $\frac{7}{11}$ of a square mile to lower denomination. 407 acres, 43 square rods, 19 square yards, 2 square feet, 36 square inches.
(3.) Reduce $\frac{9}{13}$ of a bushel to lower denomination. 2 pecks, 6 quarts, 4/13 pint
(4.) Reduce $\frac{5}{12}$ cubic yard to lower denomination. 11 cubic feet, 432 cubic inches
(5.) Reduce $\frac{4}{7}$ of a ton to lower denomination. 14 cwts., 42 pounds, 13 5/7 ounces

Wednesday, October 5, 1904.

(1.) Reduce .075 to a fraction of the lowest terms. $\frac{3}{40}$
(2.) Reduce .002 to lowest terms. $\frac{1}{500}$
(3.) Reduce .63 to lowest terms. $\frac{63}{100}$
(4.) Reduce .00125 to lowest terms. $\frac{1}{800}$
(5.) Reduce .0005 to lowest terms. $\frac{1}{2000}$

Wednesday, October 5, 1904.

(1.) Reduce .0525 to a fraction of the lowest terms. $\frac{21}{400}$
(2.) Reduce .346 to lowest terms. $\frac{173}{500}$
(3.) Reduce .00505 to lowest terms. $\frac{101}{20000}$
(4.) Reduce .1065 to lowest terms. $\frac{213}{2000}$
(5.) Reduce .004320 to lowest terms. $\frac{27}{6250}$

Thursday, October 6, 1904.

(1.) What per cent of a class of 63 pupils were sent home if 21 were sent home? 33⅓%

(2.)	What per cent of 240 is 60?	25%
(3.)	What per cent of 84 is 7?	8⅓%
(4.)	What per cent of 144 is 36?	25%
(5.)	What per cent of 75 is 50?	66⅔%

Thursday, October 6, 1904.

(1.)	What per cent of 7,050 is 2,010?	$28\frac{72}{101}$%
(2.)	What per cent of 9,648 is 6,030?	62½%
(3.)	What per cent of 5,724 is 3,816?	66⅔%
(4.)	What per cent of 9,474 is 7,895?	83⅓%
(5.)	What per cent of 78,430 is 15,686?	20%

Friday, October 7, 1904.

(1.)	What per cent of a class of 63 pupils if 21 were sent home?	33⅓%
(2.)	Reduce .024 to a fraction of the lowest terms.	$\frac{3}{125}$
(3.)	Reduce ⅕ of a mile to feet.	1,056 feet
(4.)	Amount of $8,100 at 3% for a year.	$8,343 amount
(5.)	What is ½% of $460?	$2.30

Friday, October 7, 1904.

(1.)	In this school there are 2,250 pupils, what percent were present all the term if 2,200 pupils were present?	$97\frac{7}{9}$%
(2.)	Reduce .01725 to lowest terms.	$\frac{69}{4000}$
(3.)	Reduce ⅔ of a square mile to lower denomination.	426 square acres, 106 square rods, 200 square yards, 1 square foot, 72 square inches.
(4.)	Amount of $65.50 at 4% from April 10, 1900, to October 20, 1900?	66.88\frac{5}{18}$
(5.)	What is $\frac{5}{9}$ % of 1,420?	7.88$\frac{8}{9}$

FIFTH WEEK.

Monday, October 10, 1904.

(1.)	Discount on $225 at 4%.	$9.00
(2.)	Discount on $170 at 3%.	$5.10
(3.)	Discount on $2.75 at 10%.	$0.275
(4.)	Discount on $4,800 at 2½%.	$120
(5.)	Discount on $320 at 5%.	$16.00

Monday, October 10, 1904.

(1.)	Discount on $5,760 at 8%.	$460.80
(2.)	Discount on $9,655 at 2%.	$193.10
(3.)	Discount on $875.50 at 3⅓%.	$29.18⅓
(4.)	Discount on $12,560 at 6%.	$753.60
(5.)	Discount on $3,706 at ¼%.	$9.26½

Tuesday, October 11, 1904.

(1.) Commission on $575 at 4%. $23
(2.) Commission on $210 at ⅓%. $0.70
(3.) Commission on $24.48 at 1%. $0.2448
(4.) Commission on $6,440 at ¾%. $48.30
(5.) Commission on $18 at 1½%. $0.27

Tuesday, October 11, 1904.

(1.) Commission on $3,075 at 1⅓%. $41
(2.) Commission on $6,540 at 2% and $1,200 at 1½%. $148.80
(3.) Commission on $5,070 at 2⅓%. $118.30
(4.) Commission on $15,740 at 4½%. $708.30
(5.) An agent bought a house for $9,850, charging ½% commission, sold it for $12,500 and charged 1½% commission, what was his entire commission? $236.75

Wednesday, October 12, 1904.

(1.) List price $150, discount at 10%, find net price. $135
(2.) List price $240, discount at 2%, find net price. $235.20
(3.) List price $275, discount at 4%, find net price. $264
(4.) List price $84, discount 25%, find net price. $63
(5.) List price $320, discount 20%, find net price. $256

Wednesday, October 12, 1904.

(1.) List price $2,750, discount at 2½%, find net price $2,681.25
(2.) List price $4,225, discount at 15%, find net price. $3,591.25
(3.) List price $5,768, discount at 33⅓%, what is the net price? $3,845.33⅓
(4.) What is the net price if there is a discount of 8⅓% on $14,650? $13,429.16⅔
(5.) What is the net price when a discount of 50% is given on $9,685? $4,842.50

Thursday, October 13, 1904.

(1.) Difference between 33⅓% and ⅓% of $48. $15.84
(2.) Difference between 50% and ½% of $64. $31.68
(3.) Difference between 12½% and ⅛% of $1,200. $148.50
(4.) Difference between 40% and ⅖% of $25. $9.90
(5.) Difference between 75% and ¾% of $48. $35.64

Thursday, October 13, 1904.

(1.) Difference between 8⅓% and 1/12% of $3,000. $247.50
(2.) Difference between 83⅓% and ⅚% of $4,524. $3,732.30
(3.) Difference between 62½% and ⅝% of $190.08. $117.612
(.4) Difference between 16⅔% and ⅙% of $4,301. $709.6649⅔
(5.) Difference between 6¼% and 1/16% of $9,616. $594.99

Friday, October 14, 1904.

(1.) Difference between 20% and ⅕% of $450. $49.10
(2.) List price of a piano was $750, it was discount at 20%, what was the net price? $600
(3.) Commission on $840 at 2½%. $21 commission
(4.) Discount on $155 at 3%. $4.65
(5.) In 215,040 cubic inches how many bushels. 100 bushels

Friday, October 14, 1904.

(1.) Difference between 28 $\frac{4}{7}$ % and $\frac{2}{7}$ % of $3,948. $1,116.72
(2.) List price $1,842, discount at 12%, find net price. $1,620.96
(3.) Commission on $15,142 at 1½% and on $650 at ⅓%. $229.29⅔
(4.) Discount on $4,725 at 4%. $189
(5.) How many bushels in 846,935.0 cubic inches. 393$\frac{9139}{10788}$ gallons

SIXTH WEEK.

Monday, October 17, 1904.

(1.) List price $60, discount 50% and 60%, what is the net price? $12
(2.) List price $40, discount 25% and 30%, what is the net price? $21
(3.) List price $500, discount 10% and 20%, find net price. $360
(4.) List price $200, discount 5% and 10%, find net price. $171
(5.) List price $36, discount 25% and 33⅓%, find net price. $18

Monday, October 17, 1904.

(1.) List price $6,500, discount at 10% and 40%, find net price. $3,510
(2.) List price $1,250, discount at 10%, 20% and 25%, find net price. $675
(3.) List price $146.50, discount at 25%, 30% and 33⅓%, find net price. $51.27½
(4.) List price $1,050, discount at 10%, 25% and 50%, find net price. $354.37½
(5.) List price $1,920, discount at 8⅓%, 10% and 12½%, find net price. $1,386

Tuesday, October 18, 1904.

(1.) In 3 bushels how many cubic inches? 6,451.2 cubic inches
(2.) What part of a bushel is 1,075.2 cubic inches? ½ bushel
(3.) What per cent of a bushel is 537.6 cubic inches? 25%
(4.) What per cent of 1 bushel is 4,300.8 cubic inches? 200%
(5.) In 10 bushels how many cubic inches? 21,504 cubic inches

Tuesday, October 18, 1904.

(1.) In 45.75 bushels how many cubic inches? 98,380.8 cubic inches
(2.) In 267 bushels how many cubic inches? 574,156.8 cubic inches
(3.) How many bushels in 47,652 cubic inches? 22 $\frac{143}{896}$ bushels
(4.) How many bushels in 592,104 cubic inches? 275 $\frac{155}{448}$ bushels
(5.) At $1.25 bushel cost of 32,256 cubic inches? $18.75

Wednesday, October 19, 1904.

(1.)	How many square feet of surface in a 10-foot cube?	600 square feet
(2.)	Cubical contents of that cube.	1,000 cubic feet
(3.)	Cubical contents of a 9-foot cube.	729 cubic feet
(4.)	Surface of that cube.	486 square feet
(5.)	Volume of a room 10 feet by 8 feet by 9 feet.	720 cubic feet

Wednesday, October 19, 1904.

(1.)	Surface of fourteen 12-foot cubes.	12,096 square feet
(2.)	Cubical contents of those cubes.	24,192 cubic feet
(3.)	Cubical contents of five rooms each 30 feet long, 24 feet wide and 20 feet high.	72,000 cubic feet
(4.)	How many square feet of surface in those rooms.	10,800 square feet
(5.)	Cubical contents in bushels of a bin 75 feet by 60 feet by 42 feet.	87 $\frac{1127}{1344}$ bushels

Thursday, October 20, 1904.

(1.)	What per cent of 24 is 120?	500%
(2.)	What per cent of 6 is 20?	333⅓%
(3.)	What per cent of 11 is 88?	800%
(4.)	What per cent of 360 is 7,200?	2,000%
(5.)	What per cent of 20 is 45?	225%

Thursday, October 20, 1904.

(1.)	What per cent of 3,065 is 3,984.5?	130%
(2.)	What per cent of 278 is 569.9?	205%
(3.)	What per cent of 350 is 1,085?	310%
(4.)	What per cent of 620 is 2,635?	425%
(5.)	What per cent of 426 is 2,343?	550%

Friday, October 21, 1904.

(1.)	What per cent of 16 is 56?	350%
(2.)	List price $240, discount at 10% and 25%, find net price.	$162 net price
(3.)	How many cubic inches in 50% of a bushel?	1,075.2 cubic inches
(4.)	How many square feet of surface in two 6-foot cubes?	432 square feet
(5.)	Amount of $500 at 10% for 40 years.	$2,500

Friday, October 21, 1904.

(1.)	What per cent of 465 is 813.75?	175%
(2.)	List price $8,000, discount at 12½%, 20% and 25%, find net price.	$4,200
(3.)	In 60,472 cubic inches how many bushels?	28 $\frac{163}{1344}$ bushels
(4.)	Cubical contents in gallons of a bin or tank 15 feet by 17 feet by 20 feet.	38,150 $\frac{50}{77}$ gallons
(5.)	Amount of $224 at 2% for 10 months 28 days.	$228.08 $\frac{8}{45}$

SEVENTH WEEK.

Monday, October 24, 1904.

(1.)	75 is 50% more than what number?	50
(2.)	84 is 33⅓% more than what number?	63
(3.)	220 is 37⅓% more than what number?	160
(4.)	217 is 40% more than what number?	155
(5.)	175 is 25% more than what number?	140

Monday, October 24, 1904.

(1.)	1568 is 75% more than what number?	896
(2.)	2470 is 60½% more than what number?	1,520
(3.)	4,565 is 83⅓% more than what number?	2,490
(4.)	9,240 is 66⅔% more than what number?	5,544
(5.)	4,030 is 8⅓% more than what number?	3,720

Tuesday, October 25, 1904.

(1.)	Face of note $150, discount at 4%, find proceeds.	$144 proceeds
(2.)	Find proceeds of a note valued at $280, discount at 2½%.	$273
(3.)	Proceeds of a note of $640 at 5% discount.	$608
(4.)	Proceeds of a note of $61, discount at 6%.	$57.34
(5.)	Proceeds of a note of $900 at 3⅓% discount.	$870

Tuesday, October 25, 1904.

(1.)	Proceeds of a note of $2,048 at 3½% discount.	$1,976.32
(2.)	Proceeds of a note of $500.25 at 2½% discount.	$487.74⅜
(3.)	Proceeds of a note of $4,025 at 4% discount.	$3,864
(4.)	Proceeds of a note of $69.72 at 5% discount.	$66.23⅖
(5.)	Proceeds of a note of $5,568 at 3% discount.	$5,400.96

Wednesday, October 26, 1904.

(1.)	45 equals 10% less than what number?	50
(2.)	16 equals 33⅓% less than what number?	24
(3.)	18 equals 87½% less than what number?	144
(4.)	168 equals 50% less than what number?	336
(5.)	20 is 16⅔% less than what number?	24

Wednesday, October 26, 1904.

(1.)	4,560 is 20% less than what number?	5,700
(2.)	9,873 is 25% less than what number?	13,164
(3.)	3,048 is 14 2/7 % less than what number?	3,556
(4.)	5,000 is 6¼% less than what number?	5,333⅓
(5.)	2,600 is 80% less than what number?	13,000

Thursday, October 27, 1904.

(1.)	How much money did I collect if I received $1 commission at 4%?	$25

(2.) How much money did I collect if I received $30 at 3% commission? $1,000

(3.) How much money was collected if my commission at 5% was $24? $480

(4.) How much money was collected if my commission at 2½% was $9? $360

(5.) How much money was collected if my commission at 6% was $18? $300

Thursday, October 27, 1904.

(1.) How much money did I collect if I received 3⅓% commission and received 1,260? $37,800

(2.) How much money was collected if I received $59.16 commission at 1½%? $3,944

(3.) How much money was collected if my commission at ½% was 29.34? $5,868

(4.) How much money was collected if my commission at ⅔% was $56.24? $8,436

(5.) How much money was collected if my commission at .04 was $38.26? $956.50

Friday, October 28, 1904.

(1.) 810 is 12½% more than what number? 720

(2.) Face of note $32, discount at 3%, find proceeds. $31.04

(3.) 44 is 60% less than what number? 110

(4.) How much money was collected if my commission of $6.30 was received at 3%? $210

(5.) List price $50, discount at 10% and 40%, find net price. $27

Friday, October 28, 1904.

(1.) 726 is 21% more than what number? 600

(2.) Face of note $706.40, discount at 5%, find proceeds. $671.08

(3.) 648 is 4% less than what number? 675

(4.) How much money was collected if my commission of $230.37 was received at 3½%? $6,582

(5.) List price $4,000, discount at 15%, 20% and 30%, find net price. $1,904

EIGHTH WEEK.

Monday, October 31, 1904.

(1.) What part of 3½ is 35? 10 times

(2.) What part of 50 is 2½? $\frac{1}{20}$

(3.) What part of 16 is 1⅓? $\frac{1}{12}$

(4.) What part of 4¼ is 12¾? 3 times

(5.) What part of 2⅕ is 19⅘? 9 times

Monday, October 31, 1904.

(1.) What part of 295¼ is $42\frac{5}{28}$ $\frac{1}{7}$

(2.) What part of 31⅔ is 348⅓? 11

(3.) What part of 148¾ is 208¼? 1⅖

(4.) What part of 166⅚ is 30⅓? $\frac{2}{11}$

(5.) What part of 282 is 122⅕? $\frac{13}{30}$

EDITOR'S NOTE.—This article will be continued in a future issue.

Synonyms, Their Meanings and Uses.

By WILLARD MYERS and IGNUS O. HORNSTEIN.

7A.

Accept—except.

To *accept* means to take something offered; to *except* means to make an exception of.

Accept the place the divine Providence has found for you.—Emerson.

He could discern clearly enough the folly and meanness of all bigotry *except* his own.—Macaulay.

Awkward—clumsy.

These epithets denote what is contrary to rule and order in form and manner. *Awkward* respects outward deportment; *clumsy,* the shape and make of the object: a person has an *awkward* gait, is clumsy in his whole person.

In an incredibly short time . . . these *awkward* fellows had acquired a military air.—Fiske.

Half our efforts are in a wrong direction, and the other half are too *clumsy* or feeble to attain their aim.—Gregg.

Among—between.

Among is used properly when the reference is to more than two persons or things or groups of persons; *between* when the reference is to two only.

Love *among* mortals
Is but an endless sigh.—Longfellow.

The consummation of peace *between* the United States and Great Britain was the sublime result of powers which were conspiring together for the rennovation of the world.—Bancroft.

Bring—fetch—carry.

Bring means to take along in coming; an action performed at the option of the agent; *fetch,* to go get, bring; *carry,* to take along in going; fetch and carry are done at the option or command of another.

God sends nothing, God *brings* everything.—Phillips Brooks.

The newspaper of the day . . . *carried* the letter of Washington into every home.—Bancroft.

The Indians were sent to *fetch* the beaver skins.—Kingsford.

Choose—prefer.

To *choose* is to take one thing from among others; to *prefer* is to take one thing before or rather than another. We sometimes *choose* from the bare necessity of choosing; but we *prefer* without making a positive and voluntary choice.

I may neither *choose* whom I would, nor refuse whom I dislike.—Shakespeare.

I am to *prefer* the Good of my Health, before the Good of my Wealth.—McHale.

Come—arrive.

Come is general; *arrive* is particular. Persons or things *come;* persons only or what is personified *arrive.*

To come specifies neither time nor manner arrival is employed with regard to some particular period or circumstance.

Poverty makes men *come* very near each other.—Phillips Brooks.

It is the only way we can hope to arrive at the truth.—Patrick Henry.

Contain—hold.

Contain is employed for moral or spiritual contents; *hold* is employed only for material contents of hollow bodies.

Cover—hide.

To *cover* is to hide as the means to an end. The ruling idea in the word *cover* is that of throwing or putting something over a body; in the word *hide,* the idea is that of keeping carefully to one's self, from the observation of others.

Smoking ruins are good to *cover* evil deeds.- Cooper.

Adam and his wife *hid* themselves from the presence of the Lord, God. —Gen. III, 8.

Cry—weep.

An outward indication of pain is expressed by both these terms, but *cry* comprehends an audible expression accompanied with tears or otherwise; *weep* simply indicates the shedding of tears.

The child *cried* at the least provocation.

The strong man *wept* when he realized his misfortune.

Cure—remedy.

Cure denotes either the act of curing, or the thing that cures. *Remedy* is mostly employed for the thing that remedies. In the former sense the remedy is to the *cure* as the means to an end; a cure is performed by the application of a *remedy.* In the second sense of the word *cure* we get nearer in sense to the word *remedy,* the former being applied to great matters, the latter to small.

Our universities *cure* men of doing things by halves, be the things mental or muscular.—Reade.

The first step towards a *cure* is a knowledge of the disorder.—E. Hodder.

Happiness is an excellent *remedy* and keeps people in better health than any other.—Victoria.

Couple—few.

Couple refers to *two* related or associated things of a kind; a pair. *Few* refers to a small number, not many, and may mean more than two.

Few came to soothe her *holiness.*—Trowbridge.

A couple of men were able to do the work.

Demand—ask.

To *demand* means to ask for with authority or with insistence. To *ask* means simply to express a desire for.

Is not a thing to be *asked* for and had only for the asking?—Longfellow.

I will *demand* of thee and declare thou unto me.—Job XI, 7.

Disappear—vanish.

To *disappear* comprehends no particular mode of action; to *vanish* includes in it the idea of rapid motion. A thing *disappears* either gradually or suddenly; it *vanishes* on a sudden; it *disappears* in the ordinary course of things; it *vanishes* by an unusual effort, a supernatural or magic power. To *disappear* is often a temporary action; to *vanish* generally conveys the idea of being permanently lost to sight.

In 1763, French power *disappeared* from North America.—Blaine.

At my feet the city slumbered. From chimneys here and there,
Wreaths of snow-white smoke, ascending, vanished ghost like into air.
—Longfellow.

Disapprove—dislike.

Disapprove is an act of the judgment; *dislike* is an act of the will or the affections. To *approve* or *disapprove* is peculiarly the part of a superior, or one who determines the conduct of others; to *dislike* is altogether a personal act, in which the feelings of the individual are consulted.

After due deliberation the president *disapproved* the bill.

The mere public is at all times disposed to *dislike* the existing government, be it what it will.—Thomas Arnold.

Stupid—dull.

Stupid expresses an amazement equivalent to a deprivation of understanding. *Dull* indicates a simple deficiency. *Stupidity* in its proper sense is very natural to a man, although a particular circumstance may have a similar effect upon the understanding: he who is questioned in the presence of others may appear very *stupid* in that which is otherwise very familiar to him. *Dull* is an incidental quality, arising principally from the state of the animal spirits.

With wild surprise,
A moment *stupid,* motionless he stood.—Thomson.

She is not bred so *dull* but she can learn.—Shakespeare.

Each—every.

Each means all of any number considered one by one. *Every* means all of any number considered as composing a group or class. *Every* directs attention to totality; *each* chiefly to the individuals composing it.

Each pupil recited in his turn.

Every pupil should have a dictionary and use it freely.

Each other—one another.

Use *each other* when reference is made to only two persons. *One another,* when more than two are meant.

They looked at *each other* and finally parted.

The accused men blamed *one another* for their misfortune.

Emigration—immigration.

Emigration is the moving out from a country; *immigration* is the moving into it.

The whole policy of Pericles was to get rid of the superabundant population by encouraging the ***emigration*** of the poorer sort.—Rawlinson.

In the present century the ***immigration*** of a large foreign population is seldom favorable to the moral condition of a nation.—Lecky.

Enough—sufficient.

He has ***enough*** whose desires are satisfied; he has ***sufficient*** whose wants are supplied, he may therefore frequently have ***sufficiency*** when he has not ***enough.***

And Esau said, "I have ***enough,*** my brother."—Gen. xxxiii, 9.

I have had ***sufficient*** sleep.

Excuse—pardon.

We ***excuse*** a person by exempting him from blame; we ***pardon*** by forgiving without punishment the offence one has committed; we ***excuse*** a small fault, we ***pardon*** a big fault: we ***excuse*** that which personally affects ourselves; we ***pardon*** that which offends against morals; we may ***excuse*** as equals; we can ***pardon*** only as superiors.

You will ***excuse*** me for interrupting your story?

I pray thee, ***pardon*** my sin.—I Sam. xv, 25.

Empty—vacant.

That is ***empty*** which contains nothing; that is ***vacant*** which is without that which might be expected to fill it.

The ***empty*** dish was refilled.

His foolish laugh bespoke the ***vacant*** mind.

Funny—odd.

Funny means comical; ***odd*** means strange.

In the sense of strange, ***funny*** is not in good use.

He amused us with ***funny*** stories.

Patients have sometimes coveted ***odd*** things.

Gather—collect.

To ***gather*** is to bring things of a sort together; to ***collect*** annexes the idea of binding or forming into a whole; we ***gather*** that which is scattered in different parts. ***Gathering*** is a mere act of necessity or convenience; ***collecting*** is a mere act of design or choice.

To pay the creditor . . . he must ***gather*** up money by degrees.

A band of men ***collected*** from each State formed the first Continental Congress.

Glory—honor.

Glory impels to extraordinary efforts and to great undertaking. ***Honor*** induces to a discharge of one's duty. ***Glory*** is connected with everything which has a peculiar public interest; ***honor*** is more properly obtained within a private circle. ***Glory*** is attainable but by few, and may be an object of indifference; ***honor*** is more or less within the reach of all, and must be disregarded by no one. ***Glory*** is a sentiment selfish in its nature, but salutary or pernicious in its effect, according as it is directed; ***honor*** is a principle disinterested in its nature, and beneficial in its operations.

Napoleon was a devotee of ***glory.***

I have been told by English merchants that commercial *honor* stands higher in India than in any other country.—Max Müller.

Hollow—empty.

Hollow respects the body itself; the absence of its own materials produces hollowness. *Empty* respects foreign bodies; their absence in another body constitutes emptiness. What is *empty,* must be *hollow;* but what is *hollow* need not be *empty.* That which is *hollow* is destined by nature to contain; but that which is *empty* is deprived of its contents by a casualty.

They pictured the earth standing in the center of a *hollow* crystal sphere.—Lockeyer.

Men can't work on an *empty* stomach.—Charles Reade.

House—home.

A *house* is a building; *home* means one's habitual abode, the abiding place of the affections. It may or may not be in a *house,* and it may include the surroundings of a *house.*

Houses are built to live in; not to look on.—Bancroft.

Freedom has its favorite *home* on the mountain or by the sea.—Bacon.

Learn—teach.

Learn means to acquire knowledge, not to impart it. In the latter sense the proper word is *teach.*

Some of our great men *learned* very little from books.

The village master *taught* his little school.—Oliver Goldsmith.

Lie—lay.

To *lie* is neuter, and designates a state; to *lay* is active, and denotes an action on an object; it is properly to cause to *lie.*

The snow *lies* on the roof of the house.

A stone was brought, and *laid* upon the mouth of the den.—Dan. vi, 17.

Like—love.

Like and love differ in strength or warmth and may differ in kind. *Like* may be feeble and cool, and it never has the intensity of *love.* We may *like* or even *love* a person; we only *like* the most palatable of foods.

I *like* to go rowing.

All children *love* their mothers.

Mad—angry.

Mad means insane; in the sense of *angry* it is not in good use.

I have heard my grandsire say full oft,
Extremity of grief would make men *mad.*—Shakespeare.

His sarcastic manner makes me *angry.*

Most—almost.

Most denotes the greatest number, quantity or degree. It is always superlative and never means "nearly," which is the proper meaning of almost.

Most of the boys are here.

The time for action has *almost* come.

New—novel.

That is *new* which is not old; that is *novel* which is both new and strange.

A *new* planet was discovered this year.

The works defending Richmond . . . were attacked in a *novel* manner in the third year of the war.—C. W. Dieke.

Often—frequently.

Often signifies properly, repetition of action; *frequently* respects a plurality or number of objects.

He *often* wished that he were wealthy.

His visits were made *frequently.*

People—nation.

A *nation* is a *people* connected by birth: there cannot, therefore, strictly speaking, be a *nation* without a *people;* but there may be a *people* without a *nation.*

The simple idea of numbers is expressed by the *people.* *Nation* makes the connection of numbers by birth. Hence, *people* is the generic, and *nation* the specific term.

As long as William the Great lived he was the guiding star of a whole Crave *nation* and when he died the little children cried in the streets.

The *people* of the United States are joined together by insoluble ties.

Sign—signal.

The *sign* enables us to recognize an object; it is, therefore, sometimes natural. *Signal* serves to give warning; it is always arbitrary. We converse with those who are present by *signs;* we make ourselves understood by those who are at a distance by means of a *signal.*

The earth's *sign,* is a circle, denoting its shape.—J. N. Lockeyer.

All obeyed
The wonted *signal* . . . of the potentate.—Milton.

Unless—except.

Unless, which is equivalent to if less, if not, or if one fail, is employed only for the particular case; but *except* has always a reference to some general rule, of which *exception* is hereby signified.

Unless you study better you will be dropped—
But yesterday you never opened lip
Except indeed to drink.—Tennyson.

Writer—author.

Writer refers us to the act of writing; *author,* to the act of inventing. There are, therefore, many *writers* who are not *authors;* but there is no *authors* of books who may not be termed a *writer.*

God is the *author* of all things.

Longfellow was a *writer* of ability.

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New York Boston Chicago

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Published March, June, October, December. Subscriptions may begin with any number. The subscription price is One Dollar for four successive numbers. Single Copies 35 cents.

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New York Teachers' Monographs

PLANS AND DETAILS OF GRADE WORK

JUNE 1905

SCHEME FOR DECORATING CLASSROOMS IN AN ELEMENTARY SCHOOL OF THE CITY OF NEW YORK.

By Emma L. Johnston, Principal Training School for Teachers, Brooklyn.

I. Aims.

1. To make of the decoration of each room a unit—the expression of a single idea.

2. To use in each room pictures that interest and inspire the pupils occupying that room.

3. As far as possible to connect the decoration of a room with the literature or history taught in that room. "Literature and history embody in concrete form moral facts and principles showing to the child 'his own self writ large,' furnishing him with ideals and incentives and moulding his moral judgment."—*From Syllabus in Ethical Training.*

II. Subjects Illustrated by the Decoration of Classrooms for the Sixteen Grades of the Elementary School.

Grade 1A—Mother Goose Rhymes.
" 1B—Stories of Familiar Animals.
" 2A—Fairy Tales.
" 2B—Animals of Æsop's Fables.
" 3A—Indian Life (Hiawatha).
" 3B—Child Life.
" 4A—Myths.
" 4B—Legends.
" 5A—Children's Poet (Longfellow).
" 5B—City of New York.
" 6A—Explorers and Colonists.
" 6B—American Heroism.
" 7A—Early English History.
" 7B—Later English History.
" 8A—Shakspere.
" 8B—Sir Walter Scott.

1A—First Year, First Half.

Mother Goose Rhymes.

In this grade nursery rhymes are read to the pupils, and selections from "Mother Goose" are memorized by them.

The pictures for the walls should be simple, artistic, and attractively colored. They should be hung low.

Some of the pictures may be large sketches in water color made by the pupils of the upper classes as part of their regular grade work in figure drawing. For an exercise of this kind one pupil, in the costume of a Mother Goose character, poses for her classmates. The best sketch is presented by its maker to the children of the Mother Goose Room. As the sketches are produced easily and in comparatively large numbers, the decoration of this room may be altered frequently.

Suggested list of pictures:

The Queen Was in the Parlor.—Perkins.
The King Was in the Counting House.—Perkins.
The Maid Was in the Garden.—Perkins.
Blow, Wind, Blow.—Perkins.
My Mary.—Perkins.

Sketched from life by pupils of upper grades:

Little Miss Muffet.
Mistress Mary.
Little Jack Horner.
Little Bo-Peep.
Little Boy Blue.
The Queen of Hearts.
Jack and Jill.
The Knave of Hearts.
Old Mother Hubbard.

1B—First Year, Second Half.

Stories of Familiar Animals.

In this grade, stories of familiar animals are read to the children by the teacher, and simple stories of animal life are read by the children themselves. Such poems as Wadsworth's "Over in the Meadow"; Tennyson's "What Does Little Birdie Say?" and Allingham's "Robin Redbreast" are memorized.

To arouse the interest of little children, the pictures for the walls should suggest stories. They should help to cultivate in the children a sympathetic acquaintance with animal life. Many of the pictures may serve as silent teachers of kindness to animals. The pictures should, for the most part, be good reproductions of well-known paintings.

In this room, as in all schoolrooms for little children, there should be birds in cages, fish in aquaria, and for the observation of butterflies and moths there should be cocoons and chrysalides.

Suggested list of pictures:
The Connoiseurs.—Landseer.
Escaped Cow.—Dupre.
Dignity and Impudence.—Landseer.
Saved.—Landseer.
The Nursery.—Waterlow.
The Children's Friend.—A. Eberle.
Feeding the Hens.—Millet.
A Fascinating Tale.—Mme. Ronner.
Safe Quarters.—Brittan.
The Pet Bird.—Meyer von Bremen.
Saved.—Sperling.
Cat and Kittens with Clock.—Mme. Ronner.
Sheep Shearing.—Millet.
Washington at Trenton.—Faed.
Study of Cats.—Lambert.
Portrait.—Rosa Bonheur.

2A—SECOND YEAR, FIRST HALF.

Fairy Tales.

In this grade folk stories and fairy tales are told by the teacher and reproduced orally by the children; and such tales as "The Sleeping Beauty" and "The Ugly Duckling" are read to the children. Several of the poems selected for memorizing appeal to the fancy of children; for instance, Sherman's "Daisies," Ingelow's "Seven Times One," and Field's "Rock-a-by-Lady."

Here, as in the Mother Goose Room, the character sketches of the older pupils may be utilized. Red Riding Hood, Cinderella, Brownies, etc., may serve as subjects for these sketches.

Suggested list of pictures:
Listening to the Fairies.—Bodenhausen.
Little Red Riding Hood.—Ferrier.
Alice in Wonderland.—Sedley.
Hans and Gretchen.—Wagner.
Jack and the Beanstalk.—Walter Crane.
Frog Prince.—Walter Crane.
Procession of Brownies.—Palmer Cox.

2B—SECOND YEAR, SECOND HALF.

The Animals of Æsop's Fables.

In this grade, the simplest of Æsop's fables are told by the teacher, and reproduced orally by the children. Many of these fables are about animals that are entirely unknown to the children. It is often the case that animals as common as the sheep, the rabbit, the ox, etc., are not known to the pupils in the lower grades of the city schools.

The pictures for the walls should represent these unfamiliar animals as they have been painted by great artists.

Suggested lists of pictures and casts:

Dog in the Manger.—Douglass.
Lions at Home.—Rosa Bonheur.
Oxen Ploughing.—Rosa Bonheur.
Peace.—Landseer.
On the Alert.—Rosa Bonheur.
Little Foxes.—Carter.
A Humble Servant.—Rosa Bonheur.
Rabbits.—Carter.
The Lone Wolf.—Kowalski.
The Shepherdess.—Lerolle.
Young Bull.—Paul Potter.
Denizens of the Highlands.—Rosa Bonheur.
Plaster cast of Wolf.—Barye.
Plaster cast of Lion.—Barye.
Plaster casts of Tiger, Bear, Camel, Elephant.

3A—THIRD YEAR, FIRST HALF.

Indian Life (Hiawatha).

In this grade the simpler portions of Longfellow's "Song of Hiawatha" are read to the pupils by the teacher. "Hiawatha's Childhood" and "Hiawatha's Sailing" are memorized.

There are no great pictures representing Indian life, but the walls of this room may be made attractive by means of colored photographs of Indian chiefs, by means of Indian relics, Indian work, etc.

Suggested list of objects for wall decoration:

Picture Writing.—Remington.
An Indian Runner.—Remington.
Hiawatha and Minnehaha.—Taylor.
Photographs of warriors, squaws, and pappooses.
Moccasins and snowshoes.
Canoes, arrowheads.
Baskets and beadwork.

3B—THIRD YEAR, SECOND HALF.

Child Life.

In this grade the pupils read Stevenson's "A Child's Garden of Verses," which deals with the child's thoughts and the child's interests. They also read Andrews's "Seven Little Sisters." Naturally much of the literature read to the pupils in this grade, as in all of the lower grades, is about child life. Among the poems memorized are "The Child's Word"; "Marjorie's Almanac"; "A Visit from St. Nicholas"—Moore; "The Captain's Daughter" —Field.

Suggested list of pictures and casts:
Sistine Madonna.—Raphael.
Cherubs (from Sistine Madonna).—Raphael.
Bambino.—Della Robbia.
Divine Shepherd.—Murillo.
Angel with Guitar.—Bellini.
Guardian Angel.—Guercine.
Baby Stuart.—Van Dyck.
Prince Balthazar.—Velasquez.
Infanta Margarita.—Velasquez.
Henrietta.—Van Dyck.
Charles II.—Van Dyck.
Strawberry Girl.—Reynolds.
Lady Anne Fitzpatrick.—Reynolds.
Penelope Boothby.—Reynolds.
Miss Bowles.—Reynolds.
Pomona.—Millais.
Young Handel.—Dicksee.
Feeding Her Birds.—Millet.
Girl with Cat.—Hoecher.
The First Step.—Millet.
Good Little Sisters.—Meyer von Bremen.
Singing Boys.—Della Robbia.

4A—Fourth Year, First Half.

Myths.

In this grade myths are told by the teacher and reproduced by the pupils. Myths in good literary form are read by the teacher to the pupils.

With regard to the use of myths in elementary schools, considered from the intellectual and the ethical standpoint, educators do not agree. There seems to be less disagreement regarding the aesthetic value of the best myths,—those which have furnished inspiration for the great poets and artists. The pictures for this room appeal to the child's fancy and cultivate his love for the beautiful without lowering his moral standards.

Suggested list of pictures and casts:
Apollo and the Muses.—Romano.
Aurora.—Reni.
Helen of Troy.—Leighton.
Forge of Vulcan.—Tintoretto.
Orpheus and Euridice.—Corot.
Diana (Palma).

Head of Perseus.
Circe.—Burne-Jones.
Second Hour of Day.—Raphael.
First Hour of Night.—Raphael.
Sixth Hour of Night.—Raphael.
Automedon with Horses of Achilles.—Regnault.
Ulysses Deriding Polyphemus.—Turner.
Wood Nymph.—Burne-Jones.
Valkyrie Carrying Hero.
Plaster cast of Diana of Versailles.
Plaster cast of Minerva Medica.
Homer.—Gerard.
The Three Fates.—Angelo.

4B—Fourth Year, Second Half.

Legends.

In this grade the teacher reads to the pupils legends and tales of adventure such as are found in Andrew Lang's "Book of Romance."

Suggested list of pictures:
St. Michael and the Dragon.—Reni.
St. George and the Dragon.—Raphael-Colombo.
King Arthur.—Viccher.
The Sword Excalibur.—D. Maclise.
The Enchanter Merlin.—Howard Pyle.
Sir Galahad.—Watts.
Selling of Joseph.—Schopin.
Golden Stair.—Burne-Jones.
Siegfried and the Dragon.
Diogenes in Search of an Honest Man.
The Great Sphinx.

5A—Fifth Year, First Half.

The Children's Poet—Longfellow.

In this grade the pupils read a volume of Longfellow's simpler poems. They memorize Longfellow's "The Day is Done," "Excelsior" and "The Arrow and the Song." In lower grades they memorize "The Village Blacksmith," "The Children's Hour," "The Wreck of the Hesperus" and parts of "The Song of Hiawatha."

It is not natural for children to give much attention to the authors of the poems and stories they like. They are more interested in what the literature expresses than in the persons who produced the literature. For this reason the "author's room" is not interesting to young children. But Longfellow is the children's poet, and by the time pupils reach the 5A grade they have become interested in the poet himself.

Suggested list of pictures:

Portrait of Longfellow.

Photographs of Longfellow's house, study, etc.; of Harvard College, Christ Church, etc.; of old tower at Newport, Viking ship, etc.

Photograph of Durer's house, Nuremburg.

The Children's Hour.—Taylor.

The Building of the Ship.—Taylor.

Priscilla and John Alden.—Taylor.

Evangeline.—Taylor.

Priscilla.—Boughton.

Priscilla Spinning.—Barse.

Evangeline.—Douglas.

Shoeing the Horse.—Landseer.

The Return of the Mayflower.—Boughton.

Hiawatha and Minnehaha.—Taylor.

5B—FIFTH YEAR, SECOND HALF.

The City of New York.

In this grade the pupils read stories of New York under the Dutch and English, and they visit historic places, buildings, and monuments in and about the city of New York. Not in this grade only, but in all classes, civic pride is fostered.

In decorating this room it is important to realize that certain pictures, maps, etc., may be valuable for the information they give, but they do not add to the beauty of a room. Such objects, if used, should be placed where they do not form any part of the permanent scheme of decoration.

Suggested list of pictures:

Photographs of picturesque canal in Holland.—Van Ostade.

The Spinner.—Maes.

Dutch Girl with Cat.—Hoecker.

Dutch Child and Nurse.—Hals.

Portrait of Peter Stuyvesant.

Indian Village on Manhattan Island.

The City's Seal.

First City Hall.

Photograph of Statue of Washington (a tribute from the public schools of the city of New York).

Photograph of Washington Memorial Arch.

Photograph of Statue of Nathan Hale.

Fortifications at McGowan's Pass.

Departure of the Seventh Regiment.

Photograph of Grant's Tomb.

Photograph of Bartholdi Statue.

Photographs of Parks, Buildings, etc., of the modern city.

6A—Sixth Year, First Half.

Explorers and Colonists.

In this grade is studied the history of our country from 1492 to 1789. The part of this history appealing most strongly to the imaginations and the tastes of young learners is that which treats of discovery and settlement.

The literary works read in this grade are Hale's "A Man Without a Country" and a book of heroic ballads.

Suggested list of pictures:

Columbus at Court.—Brozic.
Departure from Palos.—Balaca.
Columbus on Santa Maria.—Piloty.
Landing of Columbus.—Van Der Lyn.
Columbus Before Council of Salamanca.—Roting.
De Soto's Discovery of Mississippi.—Powell.
Marriage of Pocahontas.—Bueckner.
Departure of Pilgrims.—Cope.
Embarkation of Pilgrims.—Weir.

6B—Sixth Year, Second Half.

American Heroism.

In this grade is studied the history of the United States from 1789 to the present time. Biographical and dramatic elements are emphasized. Deeds of heroism and self-sacrifice are presented and dwelt on. A text-book in history is studied, and a book of poems on subjects relating to American history (such as Brander Matthews's Poems of American Patriotism) is read by the pupils. Holmes's "Old Ironsides" and Finch's "The Blue and the Gray" are memorized. The pupils have already memorized Read's "Sheridan's Ride," Bryant's "Song of Marion's Men," Whittier's "Barbara Frietche," and Longfellow's "Paul Revere's Ride."

A part of the decoration of this room might be one or more sentences painted artistically on wall or on paper or embroidered by the pupils on canvas. These sentences should be the famous and inspiring sayings of American heroes.

Suggested list of pictures:

Battle of Lexington.
Photograph of the Minute Men.
Washington at Trenton.—Faed.
Washington at Valley Forge.—Buechner.
Old Ironsides.
Sheridan's Ride.—Thurlstrup.
Washington Crossing the Delaware.—Trumbull.
Signing the Declaration of Independence.—Trumbull.
Molly Pitcher.

Portraits—Commodore Perry, Andrew Jackson, Robert Lee, Abraham Lincoln, Ulysses Grant, Admiral Dewey, Theodore Roosevelt, etc.

An August Morning with Farragut.—Overend.
Cavalry Charge at Five Forks.—Redwood.
Burning of the Philadelphia.—Fenn.

7A—Seventh Year, First Half.

Early English History.

In this grade is studied English history to 1603.

Suggested list of pictures:

Photographs—Statue of King Alfred (Winchester), Stonhenge, Tower of London, Canterbury Cathedral, Dover Cliffs, Coronation Chair, etc.

St. George and the Dragon.—Colomb.
Alfred and the Burning Cakes.—Wilkie.
The Landing of Cæsar.—Blakie.
King Arthur.—Vischer.
Battle of Hastings.—De Loutherbourg.
John Signing Magna Charta.—Chappel.
Facsimile of the Great Charter.
The Princes in the Tower.—Millais.
Henry VIII.—Holbein.
Edward VI.—Holbein.
Princess Elizabeth.—Millais.
Mary Stuart (St. Petersburg).
Chaucer's Canterbury Pilgrims.—William Blake.

7B—Seventh Year, Second Half.

Later English History.

In this grade is studied English history from 1603.

Suggested list of pictures:

Charles I.—Van Dyck.
Children of Charles I.—Van Dyck.
Baby Stuart.—Van Dyck.
William and Mary.—Van Dyck.
Children of James II.—Largillierre.
George III.—Gainsborough.
Coronation of Victoria.—Winterhalter.
Photograph of Edward VII.

Three English Girls—Duchess of Gloucester (Reynolds); Countess Spencer (Reynolds); Lady Ann Fitzpatrick (Reynolds).

Duchess of Devonshire.—Gainsborough.
Photographs of portraits, buildings, landscapes.

8A—Eighth Year, First Half.

Shakspere.

In this grade the pupils read Lamb's "Tales from Shakespeare" and Shakespeare's "Merchant of Venice." In the next grade they will read

Shakespeare's "Julius Cæsar." They memorize Portia's "The Quality of Mercy" and Polonius' advice to his son. In lower grades they memorize "Good Name in Man or Woman," and several of the songs found in the plays. Having studied English history, they are now ready to connect author, writings, country and times.

Suggested list of pictures:

Portrait of Shakspere.—Chandos.
Shakspere's Birthplace.
Anne Hathaway's Cottage.
The Avon and Trinity Church.
Shakspere at Court of Elizabeth.—Ender.
Desdemona Justifying Her Flight.—Konig.
Palace of the Doges, Venice.
Rialto, Venice.
Hamlet.—Hunt.
Hamlet and Ophelia.—Merle.
Ferdinand and Miranda.—Hamilton.
Juliet and Nurse.—Smirke.
Julius Cæsar (bust).
Roman Forum.
Colosseum.

8B—Eighth Year, Second Half.

Sir Walter Scott.

In this grade the pupils read Scott's "Lay of the Last Minstrel." They have already memorized Scott's "Breathes There the Man, etc.," and Burns' "A Man's a Man for a' That," and "Bannockburn."

For many of the pupils this is their last schoolroom. Its decorations could serve no better purpose than to increase their interest in such wholesome stories as Scott's.

Suggested list of pictures:

Portrait of Scott.
Portrait of Burns.
The Burns Cottage.
Loch Lomond.
Kenilworth Castle.
Loch Latrine and Ellen's Isle.
Abbotsford.
Melrose Abbey.
Auld Brig o' Doon.
Warwick Castle.
Holyrood Palace.

Special Rooms

I.

HISTORY AND LITERATURE.

Where the departmental system is operative in the upper grades of an elementary school it may be that the pupils pass from room to room for their different recitations. In such cases certain of the rooms may be decorated to correspond with the subjects taught in them.

The room in which history is taught may contain the pictures connected with English history suggested above for the 7A grade and the 7B grade, since American history has been illustrated in the decorations of the sixth year grades.

The room in which literature is taught may contain the pictures suggested for 8A and 8B, Shakespeare and Scott being the most important authors studied in these grades. (The Longfellow room belongs to the fifth year.)

II.

GEOGRAPHY.

A great variety of good pictures may be obtained for the room in which geography is taught—pictures which will arouse the pupils' sympathetic interest in the peoples of different lands and in their pursuits; also pictures which will give some idea of the beauty and the grandeur of natural scenery and of the structures men have erected.

The pictures mentioned in the following list are merely typical:

An Arab—Schreyer.
A Halt in the Desert—Schreyer.
Spanish Peasant—Regnault.
Spanish Lady—Carbo.
Haymaking—Dupré.
Oxen Ploughing—Bonheur.
The Gleaners—Millet.
The Sowers—Millet.
Forest of Oaks—Ruysdael.
Forest of Fontainebleau—Rousseau.
The Cascade—Ruysdael.
Waterfall and Tower—Ruysdael.
The Windmill—Ruysdael.
The Wave—James.

Niagara, Falls of Yosemite, Matterhorn, Jungfrau, Pyramids, Acropolis, Athens, Pompeii, Venice, Taj-Mahal, Leaning Tower, etc.

III.

SEWING.

The decorations of this room should suggest the beauty and the dignity of the occupations of sewing, weaving, knitting and spinning. The pupils' handiwork should furnish a part of the decoration. The pupils may work on canvas appropriate sentences; such as, "A stitch in time saves nine," "She seeketh wool and flax and worketh diligently with her hands."

Suggested list of pictures:

Tapestry Weavers—Velasquez.
Girl Spinning—Millet.
The Spinner—Maes.
My Mary—Perkins.
Priscilla—Merrill.
Knitting Lesson—Senderland.
Knitting Shepherdess—Millet.
Knitting Lesson—Millet.
Woman Sewing by Lamplight—Millet.
Three Fates—Angelo.

THE USE OF PICTURES IN TEACHING.

By HARRIET H. KEITH, Normal College, New York City.

A PICTURE makes a double appeal to the mind. It addresses the intellect and the emotions. Works of art primarily educate the feelings and ennoble the sentiments; while geographical pictures, illustrations in scientific books, etc., are of interest to us chiefly because they convey information or impart ideas. It is with the latter class of pictures that this article is mainly concerned, partly because it is the more neglected field, and partly because without the kind of study here described no work of art can be fully appreciated.

In the study of geography and history, pictures are indispensable. So plentiful, cheap, and well executed are they of late years that it would be strange if educational methods, (which as Mr. Quick says lag centuries behind social reforms), had kept pace with the inventive skill that has produced them. The camera has penetrated to every part of the habitable globe, and has yielded material second only in value to travel itself in making geography a living subject.

A child I once knew would amuse herself by looking at her picture books with one eye closed. Her answer to those who questioned her peculiar form of amusement would be: "It makes the picture look so real, you would almost think you were there." I was curious enough to try this experiment myself, and found that the child was quite right. With a little effort of the imagination, and especially when gazing with the one eye in a dreamy sort of way, the figures in the picture did stand out with surprising reality, much as if viewed through a stereoscope. I question very much the effect on the eyes of much indulgence in this amusement, but the child's evident delight in it led me to think that pictures might be a far more potent force in education if we were trained to look at them as much with the eye of the imagination as with the physical eye. The stereopticon, the stereoscope and the kinetoscope all testify to our desire to make pictures look real, and some of these instruments have already penetrated into the school room. But while the optical illusion may please and interest, it is after all, the activity of the imagination that gratifies and educates. The child just mentioned would gaze for many minutes at an ordinary little wood cut, letting her imagination play about the details of the picture until, as she expressed it, she felt as if she were there.

What does a picture lack that the real object or scene possesses? How can the imagination supply the missing factors? How does the experience of being at the seashore differ from looking at a picture of the seashore? A picture appeals only to one sense, that of sight, while in the real experience, every sense is played upon at once. We hear the noise of the breaking waves and the bubbling foam; we smell the salty air and the seaweed. We feel the wind cooling our faces, the soft "give" of the sand under our feet, and what lends perhaps most tone to the experience, a general sense of freedom and exhilaration. As I write these things, and possibly as you read them, something of the vividness of a past experience

[illegible] is wanting in the
[illegible] suggested, so that the
[illegible] The observer is also
[illegible] different view
[illegible] which in the case
[illegible] apperceptive sup-
[illegible]

[illegible] up the miss-
[illegible] the scene. One
[illegible] has put into it.
[illegible] it. Ask,
[illegible] what sound is
[illegible] wind blowing?
[illegible] How do you
[illegible] There would
[illegible] in the water
[illegible]

[illegible] of a like
[illegible] unfamiliar
[illegible] Many facts
[illegible] inferences or
[illegible] The unknown
[illegible] encouraging
[illegible] furnish
[illegible] differ more in
[illegible] distant, in-
[illegible] experience. It
[illegible] Niagara
[illegible] Yosemite Val-
[illegible] possibilities out-
[illegible] the seashore.
[illegible] The
[illegible] fruit in
[illegible]

[illegible] misconcep-
[illegible] our es-
[illegible] a child
[illegible] who thought
[illegible] be com-
[illegible] even more
[illegible] to climb
[illegible] of view
[illegible] their vastness

[illegible] clear infor-
[illegible] visited than
[illegible] might be supposed that
[illegible] attraction, as it would
[illegible]

be in travel. A little introspection will show that a memory-picture is not an isolated something in consciousness, but is part of a stream of experiences out of which it emerges and into which it loses itself again. In the focus of consciousness is the particular experience we are bringing back to mind, but in the large sub-conscious area are all the associations that hold it in place, that make it *one's own* experience and not that of someone else. The three "unities" of time, place and circumstance give continuity and reality to the panorama of one's conscious life. It is plain that all these are wanting in the picture of a spot in connection with which we have no real associations.

Is there no way in which these living touches can be added to the mere visual appeal the picture of an unknown place makes to us? Can it not be made to simulate a real experience? I think we will find that it can, in great measure. Who would dare set a limit to the power of the human imagination? Sir Walter Scott, in his preface to "The Talisman" speaks of the difficulty he felt of giving a vivid picture of a part of the world with which he was almost totally unacquainted, unless by early recollections of the Arabian Nights' Entertainments. Yet critics say his picture is the most vivid and truthful ever painted in words. Minds so gifted are indeed rare, yet teachers should realize that mental power is conditioned largely upon the power to imagine.

The first call upon the imagination should be to give definite placing to the scene depicted, not so much position on a map, as a realization in consciousness of the space that separates us from the place pictured, and how this space is filled in. Then we should be clear as to whether the scene is a typical or an unusual one in its locality; how one gains access to it; how and where one lives, eats, and sleeps meanwhile; what intercourse one would have or must have with the people living there; how one would feel—surprised, awe-struck, afraid, delighted, depressed, disappointed, etc.; what vicissitudes of weather one has to encounter. These may seem trifling details, yet it is these very commonplaces that give background and color to all experience. (Study the descriptive art of Robert Louis Stevenson in such books as his "Inland Voyage.") When taking your pupils on an imaginary journey, give them also some insight into the practical minutiæ of the trip—how and where tickets are bought and how much is paid for them. Show them the railroad time table, and let them in imagination even pack their grips with garments suitable for the sojourn. Give them frequent glimpses of the landscape from the car windows or of steamer life. (Folders from railway and steamship offices give material.)

Historical pictures cannot be satisfactorily read without a knowledge of their source or origin. This is often a serious puzzle to thoughtful children. Is the picture a photograph or drawing made on the spot, or was it "made up" by the artist from the facts as he understood them? Is the ancient building represented as it is to-day or as it looked when new? Copies of old prints that children see in their histories often give the uncanny impression that landscapes and people had a different appearance in those days than now. They must learn to take into account the artists' difficulties. Even more pronounced is the stiffness that inheres in ancient carvings. Children are apt to attribute this to real life in those days instead of to the limitations of the artist and the hardness of the material in which he worked. Dramatizing, costuming in tableaux, etc., will put life and warmth into all such pictures. We are apt to overestimate the value of portraits in teaching history to young children. It is only as we grow older that we love to trace the life-worn grooves in the face.

Every school should have its picture library as well as its book library. Pictures will accumulate from all sources. The pupils themselves will be enthusiastic contributors, but there should be a censorship ruling out pictures worthless for educational purposes. Those accepted should be mounted on sheets of good manilla paper of uniform size, pasted lightly at the corners only (a wide margin improves a picture and protects it as well). Each class-room should be provided with chart clamps for holding the pictures when in use. A card catalogue is a necessity. One can be made from cheap cards, punched and strung on a wire stretched across a box. Each picture should be numbered and a corresponding number placed on the card with the name of the picture. It will be found a great convenience to catalogue many pictures twice with reference to their use in physical and in political geography. A good classification under the former head would be under terms designating forms of land and water and meteoric phenomena, as Clouds, Islands, Shores, etc. A second catalogue should classify according to political divisions. The names of countries and of the States of the United States are convenient headings. Historical pictures can be classified both under names of people and names of places. In short, whenever a picture is admitted to the collection, all the titles under which it might be wanted for future reference should be written on separate cards with the number of the picture, and these cards entered into the card catalogue alphabetically.

THE STUDY OF GREAT MASTERS.

By ESTHER A. S. COSTER, formerly Asst. Supervisor of Drawing, Brooklyn.

THE work of the world's great masters in art may be studied from many standpoints, but the four methods which I offer here seem to me best suited to public school conditions. These outlines are only suggestions, and must be adapted to the special pictures under discussion and to the age of the pupils.. The information necessary which can not be gleaned from the pictures themselves can be found in any library, so I offer, simply, methods of study calculated to arouse interest and individual research on the part of the pupils. Only the first outline, for study of a single picture, is suitable for small children, and the last, study of schools of art, is best suited to High School pupils. In these outlines the aim is to minimize the meaningless naming of the various details of the composition, and equally valueless details of the artist's biography, and to emphasize the spirit of the picture, its value as a work of art, and the elements of the artist's character that made the picture his own creation. Picture study must be live thinking appreciation, not a dead repetition of facts.

I. Study of a single picture.

1. Secure as many copies of the picture as possible, preferably with the name concealed.
2. Subject of the picture, and how expressed by the artist.
3. Scene of picture, indoors, outdoors, city, country, season, etc.
4. Time of day (if expressed) and how shown.
5. Principal objects of interest, and how made prominent by artist.
6. Subordinate objects and why introduced.
7. Sentiment of picture—gay, sad, action, repose, etc.
8. Composition:
    - (A) Division into large spaces.
    - (B) Location and shape of principal objects.
    - (C) Distribution of light and dark.
    - (D) Coloring of picture if this can be learned.
9. Name, nationally, approximate date of work, tastes and character of artist.
10. Present location of original, and value as a work of art.

NOTE.

For small children omit sections 8, 9 and 10.

II. Study of one artist.

1. Secure portrait of artist and as many of his works as possible.
2. General character of pictures—religious, nature, animal, peasant, portrait, etc.
3. Sentiment expressed—gay, sad, action, repose, etc.
4. Variety of subjects interpreted by artist.

5. Subjects apparently preferred by artists.
6. Strongest points in composition.
    - (A) Handling of mass (form).
    - (B) Handling of light and dark (chiaroscuro).
    - (C) Handling of color.
    - (D) Mastery of drawing—simplicity or much detail.
7. Name, nationality, approximate date of best work, tastes and character of artist.
8. Present location of best works, and their value as works of art.
9. Position of artist as a master during life time and at present.
10. Personal choice of favorite picture with reason for choice.

III. Comparative study of pictures or artists.

1. Choose pictures similar in subject by different artists, as:
    Shepherdess—Millet and Lerolle.
    Peasant life—Millet and Breton.
    Landscape—Corot and Ruysdael.
    Animal—Landseer and Troyon.
    Religion—Raphael and Michael Angelo.
    Portrait—Rembrandt and Van Dyck.
2. Name all points of similarity in material chosen by artists to express the thought.
3. Name all points of difference.
4. Compare sentiment expressed—gay, sad, action, repose, etc.
5. Compare composition as shown by:
    - (A) Distribution of masses.
    - (B) Distribution of light and dark.
    - (C) Location of principal objects.
    - (D) Use of subordinate details.
    - (E) Coloring of it can be learned.
6. Compare tastes and character of artists.
7. Compare rank of artists as masters.
8. Compare value of pictures as works of art.
9. Personal choice of picture preferred with reason for choice.

NOTE.

Comparing two pictures only is the simplest method. Too many pictures confuse the pupils.

IV. Study of Schools of Art.

1. Choose several of the best works of each artist in a given school, with the portraits of the artists if possible. Arrange each artist's work in a group.
2. By study of all the groups determine the general character of the work of the school, religious, nature, portraits, etc.
3. General points of similarity in the several groups.
4. Two or more characteristics of each artist's work as an individual,

dependent upon his personal tastes and character.

5. Compare mastery of drawing.
6. Compare mastery of composition.
7. Compare mastery of light and dark.
8. Compare mastery of color.
9. Name, approximate date and chief value of the work of the school in the advancement of art.
10. Comparative position of artists as masters.
11. Value of pictures as works of art.
12. Present location of one or more originals best representing the school.
133. Personal choice of picture, with reason for choice.

INEXPENSIVE PICTURES.

Prang Platinettes. (Well executed, very durable.)
Cosmos pictures (2 sizes).
Brown pictures (2 sizes).
Perry pictures (2 sizes).

REFERENCE LIST.

Any reliable History of Painting.
How to Judge a Picture. Van Dyke.
Great Pictures Described by Great Writers. Singleton.
How to Enjoy Pictures. Emory.
Riverside Series. Hurll.
Great Artist Series (Pamphlet).
Masters of Art (Magazine).
Fully illustrated.

PICTURE STUDY IN ALL THE GRADES.

By JOSEPHINE A. FREY, P. S. 34, Brooklyn.

Grade 1A.

Picture—"The Four Kittens"—Adam.

Value.

I. Aesthetic.

1. Would you like to own four little kittens like those in the picture?

2. Do you like the kittens' eyes.

3. Of what is each one thinking?

4. Do you think the kittens would look so pretty if they were all light or all dark?

5. A beautiful study in coloring.

6. A good example of expressions.

7. The amount of life shown in the picture.

II. Utilitarian and ethical.

1. By using some of children's pets suggests kind treatment of animals.

2. If you had little kittens like these, would you like to stroke them? Why?

3. Do you think the artist who painted this picture found it easy to paint these kittens? Why not?

Grade 1A.

Picture—"Head of Child"—Greuze.

Value.

I. Aesthetic.

1. Do you like this child's face?
2. Of what does she seem to be thinking of?
3. What is she holding in her hand?
4. Could you like a little girl like this?
5. Where is she sitting?

II. Utilitarian and ethical.

1. A picture which will appeal to children.
2. Good study of a child's head.
3. An example of childish thoughtfulness.
4. The feeling of love is awakened in the child?

Grade 1A.

Picture—Study of Cats—Lambert.

Value.

I. Aesthetic.

1. Where are these cats?
2. Are they good cats?

3. With what are they playing?
4. Is it easy for the kittens on the right to climb on to the table?
5. At what is the mother cat looking?
6. Do the other cats see it?
7. What is the first kitten watching?

II. Utilitarian and ethical.

1. An example of the pranks of cats.
2. The slyness of cats is shown.
3. A good study of a cat family.
4. The playfulness of cats is shown.
5. This picture will interest children.

Grade 1A.

Picture—Girl with Cat—Paul Hoecker.
Value.

I. Aesthetic.

1. Does the girl love the cat?
2. Does the cat like to be held in her arms?
3. Is he a pretty cat?
4. What about the size of the cat?
5. From what country does this girl come? How do you know?
6. Does she dress as we do?
7. Would you like the cat better if he were white?
8. Would the picture be prettier if her apron were black?
9. Beauty of color contrast.

II. Utilitarian and ethical.

1. The child's love for animals is shown.
2. A knowledge of the Dutch manner of dress is given.
3. The child and cat appeal to the children.
4. A good example of a beautiful cat.

Grade 1B.

Picture—A Fascinating Tale—Mme. Ronner.

Value.

I. Aesthetic.

1. At what are the cat and kittens looking?
2. Do any of them look afraid or surprised?
3. Which wants it most? How do you know?
4. Are they making a noise? How can you tell?
5. Which is the most sly?
6. Do you think they would like to be disturbed?
7. Do you like the coloring of the kittens?
8. Where are they? Does it make a pretty picture to have them there?
9. Would father like to have them among his books?
10. A good example of the beautiful markings of cats.

II. Utilitarian.

1. A splendid study of cats and their pranks.
2. An interesting picture for children.
3. The slyness of cats is shown.

THE PERRY PICTURES—1,068. PAUL HOECKER.
GIRL WITH CAT.

THE PERRY PICTURES—573. LAMBERT.
STUDY OF CATS.

THE PERRY PICTURES—500. ADAM.
THE CAT FAMILY.

THE PERRY PICTURES—648. VAN DYCK.
BABY STUART.

Grade 1B.

Picture—The First Step—Millet.
Value.

I. Aesthetic.

1. Do these parents love their baby?
2. Are they glad to have it walk?
3. Is the baby happy?

4. Does the baby love his father?
5. What has the father been doing?
6. Is the place in the country or city?
7. Are these people rich?
8. What season of the year is it?
9. Does the father think enough of his baby to stop his work?

II. Utilitarian.
1. The unselfish devotion of parents is portrayed.
2. Parental pride is shown.
3. The joy of the child is pictured.
4. A good example of each parent's duty in the home.

Note to Teachers—Pictures by this artist may be seen at the Metropolitan Art Museum.

Grade 1B.

Picture—The Cat Family—Adam.
Value.

I. Aesthetic.
1. What is the mother cat doing to the kitten?
2. Does the mother love the little ones?
3. Does the kitten hurt when he bites his mother?
4. Where is the family of cats?
5. What are the two in the corner doing?
6. Are these cats pretty?
7. Is one like the other?
8. What makes the two kittens in the corner look so light?

II. Utilitarian and ethical.
1. Mother love shown even in animal life.
2. An example of cat's playfulness.
3. One sees the beauties of the cat in this picture.
4. We see the place where the cat loves to be.
5. The picture will appeal to the children.

Grade 1B.

Picture—"Milking Time"—Dupre.
Value.

I. Aesthetic.
1. What time of day is it? How do you know?
2. What season of the year is it?
3. Does the cow mind being milked?
4. Is the girl gentle?
5. Is the cow gentle?
6. What color is the cow? Do you like white cows in a picture?
7. What kind of a room is shown at the back?

II. Utilitarian and ethical.
1. The use of the cow is shown.

2. An example of gentle expression of cows.
3. Kindness to animals shown.
4. The duties of some women are displayed.

Grade 2A.

Picture—"Saved"—Landseer.
Value.

I. Aesthetic.
   1. Think of one word that would be a good name for this picture.
   2. How do you think the dog feels?
   3. Do you like the dog's face and color?
   4. Would you like to own a dog like this?
   5. What do you think the child has been doing?
   6. Do you think she was a very good little girl?
   7. Does the dog love the little girl?
   8. Is this a good picture of a dog?

II. Utilitarian and ethical.
   1. A good example of dogs' faithfulness.
   2. A lesson is given to all children.
   3. Children's sympathy and love will be awakened by a study of this picture.
   4. A beautiful study of a dog.

Grade 2A.

Picture—"Shoeing the Horse"—Landseer.
Value.

I. Aesthetic.
   1. What is the feeling expressed in the whole picture?
   2. Is the horse gentle?
   3. Is the man gentle?
   4. Is the horse afraid of the man?
   5. Do you think the horse would let you ride on his back? Why?
   6. Does the horse's hair show good care? Why do you think so?
   7. Of what is the dog thinking?
   8. Why is the donkey here?
   9. Would the picture be nicer if there was no window?

II. Utilitarian and ethical.
   1. A great lesson of kindness is taught.
   2. Beauty in animal life is shown.
   3. A specimen of one of man's occupations.
   4. The great intelligence of the horse and dog is displayed.

Grade 2A.

Picture—"The Balloon"—Dupre.
Value.

I. Aesthetic.
   1. What are all the people watching?

2. Do you think that these people think the balloon is a wonderful thing? Why?
3. What have they been doing?
4. Where is this place? Is it a pretty place? What makes it so?
5. What season of the year is it?
6. Is it warm? How can you tell?
7. What time of day is it?
8. What do you think the little boy has been doing?

Note to Teachers.—The original of this picture may be seen in the Metropolitan Art Museum.

II. Utilitarian.

1. An explanation about the balloon is suggested.
2. A good study of a landscape.
3. A splendid example of expression in face and attitude.
4. Country life is shown.
5. An occupation which can be seen by every child.

Grade 2A.

Picture—"The Strawberry Girl"—Sir Joshua Reynolds.

Value.

I. Aesthetic.

1. Do you think the man who painted this picture was fond of children?
2. Are her eyes beautiful? Why?
3. Why has she her hands folded and held so tightly?
4. Where has she been?
5. Do you think she is happy? Why?
6. What kind of a basket has she?
7. Why is she given the name, "The Strawberry Girl?"

II. Utilitarian.

1. A perfect study of a child's face.
2. A suggestion of one of the delights of children.
3. A great expression of sweetness.
4. Difference in dress and customs.

Grade 2B.

Picture—"Dignity and Impudence"—Landseer.

Value.

I. Aesthetic.

1. What can you say of the expression of the large dog?
2. Of the small dog?
3. Would the large dog hurt the small one?
4. What species of a dog is the large one?
5. The small one?
6. Is this picture well named?
7. Where are these dogs?

II. Utilitarian and ethical.
1. A good study of dog life.
2. Two marked differences in expression.
3. An illustration of the love of one animal for another.

Grade 2B.

Picture—"Piper and Nutcrackers"—Landseer.

Value.

I. Aesthetic.
1. What are the squirrels doing?
2. Where are they all?
3. What is the little piper doing?
4. Are the squirrels listening to him?
5. Do you think the squirrels are pretty?
6. Do you think they would hurt you if you petted them? Why not?

II. Utilitarian and ethical.
1. A story of the squirrel's life is suggested.
2. Friendliness between bird and other animals shown.
3. Beauty of form and coloring of squirrels is pictured.

Grade 2B.

Picture—"Spring"—Knaus.

Value.

I. Aesthetic.
1. Would you like to be in a place like this?
2. What time of the year does this picture suggest?
3. Note the look of pleasure in the child's face.
4. Look how carefully she handles the flowers.
5. Tell the names of the flowers and a little about them from what you see.

II. Utilitarian and ethical.
1. One of the favorite pastimes of every child is described.
2. A love of nature is awakened.
3. What does this picture recall in the mind of every little one?
4. A simple study of a landscape.

Note.—Pictures by this artist may be seen at the Metropolitan Art Museum.

Grade 2B.

Picture—"Young Kittens"—Knaus.

Value.

I. Aesthetic.
1. Note the loving manner in which the child holds the kittens.
2. How does the mother cat feel toward the little girl?
3. Note particularly the attitude of the old cat.
4. Do the cats enjoy being caressed?

5. Notice the playfulness of the little kittens in the straw.

II. Utilitarian and ethical.

1. Playing with kittens is one of children's pleasures.
2. Kindness to animals taught?
3. Feeling of a mother toward her little ones is clearly shown.

Grade 3A.

Picture—"Feeding Her Hens"—Millet.
Value.

I. Aesthetic.

1. What is the woman doing?
2. Are they hungry?
3. What kind of a woman is she?
4. What is the little baby in the doorway doing?
5. Do you think she is hungry, too?
6. Would the picture be as pretty without the gateway?
7. What makes the background of the picture so pretty?
8. What kind of a house would you take this to be?

Note.—Here might be given a simple description of the French country houses as they were in Millet's time.

9. What kind of day do you think it is? Why?

II. Utilitarian and ethical.

1. Beauty of nature shown by means of the open gate and the vines.
2. A glimpse of farm life and farm pets.
3. The country woman's duty out of doors.
4. An example of childish curiosity.

Grade 3A.

Picture—"Happy as the Day is Long"—Faed.
Value.

I. Aesthetic.

1. Note expression on the mother's face.
2. Of what is she thinking?
3. Is the little one contented?
4. What feeling is suggested in this picture?
5. What kind of a day is represented?
6. Note the perfect quiet and harmony.
7. What part of the picture suggests another cause for happiness?

II. Utilitarian and ethical.

1. This picture is a good representation of simple family life.
2. Love and kindness to animals shown.
3. A mother's love is represented.
4. A lesson in contentment taught.
5. Why is this picture especially interesting to children?

Grade 3A.—
Picture—"For the Squire"—Millais.
Value.

I. Aesthetic.
   1. Note expression of girl's face.
   2. What does it suggest?
   3. How does she feel about bringing the letter?
   4. From her dress, where does she live?

II. Utilitarian and ethical.
   1. A good picture for child study.
   2. The pride of children is clearly shown.
   3. How useful children can be is suggested.

Grade 3A.
Picture—"On the Beach"—Delobbe.
Value.

I. Aesthetic.
   1. Note the delight expressed by baby.
   2. Does he like to be without shoes?
   3. Notice how attentive the older people are to the little one.
   4. Do the three love baby?
   5. What is the man doing?
   6. Where do these people live and what is their occupation?

II. Utilitarian and ethical.
   1. The pastimes of these people is shown.
   2. Love for children is awakened.
   3. A pleasure which is within the reach of every child.

Grade 3B.
Picture—"The Little Scholar"—Bouguereau.
Value.

I. Aesthetic.
   1. Do you like this little girl? Why?
   2. What is she hugging so closely?
   3. Notice her face and tell about what she is thinking.
   4. Which is the sweetest part of the picture?
   5. Would you like this picture hanging in your room?
   6. What would you name the picture?

II. Utilitarian and ethical.
   1. Is she an obliging little girl?
   2. The use of an education is suggested.
   3. A representation of one of children's delights.

Grade 3B.
Picture—"The Pet Bird"—Meyer von Bremen.
Value.

I. Aesthetic.
   1. What are these children doing with the bird?

2. Why did the artist paint a white bird instead of a black one?
3. Is he afraid of them?
4. Is he anxious to fly away?
5. Whom is the little girl, facing us, watching?
6. What has she been doing?
7. What tells you this?
8. Would this picture be as interesting if the children were all on one side of the table?
9. Do these people love plants?
10. From what country do the children come?

II. Utilitarian and ethical.
1. The love for birds is shown.
2. An example of one of child's amusements.
3. An example of German dress.
4. Children's delight in their own society shown.

Grade 3B.
Picture—"Baby Stuart"—Van Dyck.
Value.

I. Aesthetic.
1. Note the innocent and sweet baby face.
2. Note the object in his hand.
3. Is the child one who would please?
4. Is there anything about him which shows his father is a king or rich man?
5. Would you like him for a little brother?

II. Ethical.
1. Love for children is awakened.
2. A feeling of admiration is awakened.

Grade 3B.
Picture—"Mme. Le Brun and Daughter"—Le Brun.
Value.

I. Aesthetic.
1. Does the mother love her daughter?
2. Is she proud of her child?
3. Does the child love her mother?
4. Would you like to have this picture hanging in your room? Why?
5. What does the little girl seem to be thinking of her mother?
6. Do you think the mother has a nice hand?

II. Utilitarian and ethical.
1. An example of mother love.
2. The trust and confidence of the child in its mother shown.
3. A picture of a mother's pride.
4. Expression shown by means of attitude.
5. The beauties of the human figure are brought out.

Grade 4A.

Picture—"The Blacksmith"—Herring.

Value.

I. Aesthetic.

1. Is this a pretty picture? What makes it so?
2. Would you like it as well if the horse were dark in color?
3. What part of the picture suggests that the man loves beautiful things?
4. Would you like it better if the shutters were closed?
5. A study of the poem, "The Village Blacksmith," is suggested.

ful as it now is? Could anything have been added which would make it more beautiful?

II. Utilitarian and ethical.

1. Our dependence upon the blacksmith?
2. Our dependence upon the horse?
3. Our dependence upon the wife and mother?
4. The blacksmith's work is shown.
5. A study of the poem, "The Village Blacksmith," is suggested.

Grade 4A.

Picture—"The Ferryman's Daughter"—Adan.

Value.

I. Aesthetic.

1. What is this girl doing?
2. Is she a strong girl?
3. Is her work easy?
4. Is the boat a light one?
5. Is the water very deep?
6. What time of day is suggested?
7. Is the stretch across the water very far?
8. What kind of place is this?
9. What effects have the sun's rays on the picture?

II. Utilitarian and ethical.

1. An example of human strength.
2. A splendid example of action in the human figure.
3. The effect of the sun's rays is shown.
4. A simple landscape study.

Grade 4A.

Picture—"School in Brittany"—Geoffroy.

Value.

I. Aesthetic.

1. What kind of a place is this? Is it a pleasant school room?
2. Do these children look very studious?
3. Are they attentive?
4. Do they like the teacher?

5. How do these children recite their lessons?
6. Are the children in the seats working?
7. What are the different children doing?
8. Are they neat children?
9. What are the two little girls in the corner doing there?

THE PERRY PICTURES—521. MILLET.
FEEDING HER BIRDS.

THE PERRY PICTURES—577. BRETON.
THE GLEANER.

THE PERRY PICTURES—505. JACQUE.
THE SHEEPFOLD.

THE PERRY PICTURES—861. REYNOLDS.
ANGEL HEADS.

II. Utilitarian and ethical.
1. School life in another country shown.
2. This picture appeals to the children.
3. By this picture the children of to-day realize their advantages.
4. A good lesson in studiousness.

Grade 4A.

Picture—"Feeding her Birds"—Millet.

Value.

I. Aesthetic.

1. Are these children anxious to be fed? Do they love one another?
2. Do the other children think they are going to get anything?
3. Who else in the picture wants to be fed?
4. Does the mother like to be with her children? Is her hand steady?
5. Where are the children sitting?
6. Who is the man in the back of the picture?
7. What adds to the beauty of the house?
8. Have you seen any other house with a vine?
9. Is the sun shining in this picture?

II. Utilitarian and ethical.

1. A mother's duty to her children shown.
2. An example of one of life's necessities.
3. Pure simplicity displayed.
4. Distance shown in the picture by means of the open space of country.

Grade 4B.

Picture—"Potato Planting"—Millet.

Value.

I. Aesthetic.

1. What is the woman doing?
2. What is the man doing?
3. Which work takes more strength?
4. Is the woman's work hard?
5. In what position must the man be in order to do his work?
6. What animal do these people use on the farm?
7. What kind of country is seen?
8. What is under the tree?
9. Does the tree add anything to the picture?

II. Utilitarian and ethical.

1. Action of the human figure shown.
2. A glimpse of country life.
3. A simple landscape study.
4. The woman's share of farm life shown.

Grade 4B.

Picture—"Escaped Cow"—Dupre.

Value.

I. Aesthetic.

1. Why is the cow in the front of the picture so far from the others?

2. What is the boy doing?
3. Can you tell what time of day it is?
4. What is being done to one of the cows?
5. What are some cows doing?
6. Do you think the cow in the foreground wants to be milked?
7. Is this cow a pretty one?

II. Utilitarian and ethical.

1. Study of animal in action.
2. Study of man in action.
3. Simple landscape study.
4. Good study of a cow.
5. Good example of spacing.

Grade 4B.

Picture—"The Sheepfold"—Jacque.
Value.

I. Aesthetic.

1. Where are these sheep?
2. What is on the floor?
3. Are the sheep placed in the same positions?
4. What are some doing?
5. What is one doing?
6. Are the chickens afraid of the sheep?
7. Is there a pretty light in the picture?
8. Where does it show most clearly?

II. Utilitarian and ethical.

1. Value of light and shade shown.
2. Many positions of the sheep are given.
3. The indoor life of the sheep is portrayed.
4. An example of the sheep's gentleness.

Grade 4B.

Picture—"Angel Heads"—Reynolds.
Value.

I. Aesthetic.

1. Have you ever seen faces like these before? Where?
2. Note the several expressions.
3. Note the beautiful form of features.
4. Would you like the picture as well if the faces were in a straight line?

II. Utilitarian and ethical.

1. Explain what each is.
2. Explain how they came to be painted.

One child.—Five views; child so lovely that the artist did not know which view to paint.

3. A beautiful study in grouping.
4. A beautiful study in expression.
5. Why is this picture especially interesting to children?

Grade 5A.

Picture—"The Horse Fair"—Rosa Bonheur.

Value.

I. Aesthetic.

1. What do you think of these horses?
2. Would the picture be as beautiful if the horses were all dark, or all white?
3. Why are some drawn more faintly than others?
4. Is there any gladness in the picture
5. Which animals are the most useful to man? Why?
6. Which horse would you like to own? Why?
7. Are there any you would not care to own?
8. Could the horses have been placed differently in the picture and have it equally beautiful?

II. Utilitarian and ethical.

1. A good study of horses.
2. A good study of expression.
3. An excelllent example of action.
4. A study of Rosa Bonheur's pictures is suggested.

Note to the Teachers.—The original of this picture is in the Metropolitan Art Museum.

Grade 5A.

Picture—"Song of the Lark"—Breton.

Value.

I. Aesthetic.

1. Note expression on the girl's face.
2. Where is she?
3. Is there nice distance shown here? How?
4. What time of day is suggested?
5. Is the girl poor?
6. To what is she listening?
7. Where is the lark?
8. Does the song make her happy?
9. What does her clothing suggest?
10. Would her dress be as pleasing if all one tone?
11. How many tones in her dress?

II. Utilitarian and ethical.

1. The effect of a little happiness shown.
2. The value of song given.
3. A glimpse at the life of the French peasant girl.
4. An early morning scene.

Grade 5A.
Picture—"Haymaker's Rest"—Dupré.
Value.

I. Aesthetic.

1. What do you notice first here? Is that all there is in the picture? Why not see these first?
2. What has the man been doing?
3. Is he tired?
4. Is he glad to get the water?
5. Is the girl tired?
6. Is the pitcher heavy?
7. What time of year is it?
8. Is this a wide field? How did the artist show this?
9. What great lesson can be taken from this picture?

II. Utilitarian and ethical.

1. Notice the good placing of the figures.
2. An example of spacing in a picture.
3. An act of kindness is shown.
4. An example of the need of rest.

Grade 5A.
Picture—"Oxen Going to Work"—Troyon.
Value.

I. Aesthetic.

1. This picture is considered a very fine picture. Can you tell why?
2. What time of day is it?
3. Where are these oxen?
4. Are they anxious to go to work?
5. What is the man doing?
6. Is he tired?
7. How does the sky look? Every picture needs light and dark and gray. Has this one these? Where?
8. Do you think the sun is very high in the sky?
9. How is the distance shown?

II. Utilitarian and ethical.

1. The principle of foreshortening is brought in.
2. Manner of leading oxen is shown.
3. An example of good spacing.
4. Use which is made of the oxen shown.

Note to the teachers: Pictures by this artist may seen at the Metropolitan Art Museum.

Grade 5B.
Picture—"By the River"—Lerolle.
Value.

I. Aesthetic.

1. Is this a beautiful picture?

2. What makes it so?
3. Which parts do you like best?
4. Are the women related to the man?
5. Are the trees near or far? How do you know? Do they look like weak or strong trees?
6. How are the distant trees represented?
7. How do the man and cattle add to the picture?
8. Is there enough light and dark in the picture?

II. Utilitarian and ethical.
1. A good landscape study.
2. A good study of peasant life.
3. A mother's love is shown.

Grade 5B.

Picture—"Shepherdess Knitting"—Millet.

Value.

I. Aesthetic.
1. Is this a pleasing picture? What makes it so?
2. Wouldn't it be more pleasing if the shepherdess had been placed in the center?
3. Would you like it better if she were lying down?
4. What is the girl doing?
5. What are the sheep doing?
6. What is the girl called?
7. What time of day is it?
8. How do the sun's rays affect the picture?
9. What show that the girl is industrious?
10. Do the sheep know the girl?
11. Do you like the coloring of the picture?

II. Utilitarian and ethical.
1. Feeling of repose given.
2. A desire for the knowledge of Millet's pictures is awakened.
3. The beautiful effect of the sun's rays is exhibited.
4. Study of a simple landscape.
5. An example of an industrious girl.

Grade 5B.

Picture—"The Gleaner"—Breton.

Value.

I. Aesthetic.
1. What is there pleasing about this picture?
2. What has the girl on her shoulder?
3. Does it look like a heavy load?
4. Is it too heavy for her?
5. Is the girl strong?
6. Does she look tired?

7. Where has she been working?
8. What is the other girl in the picture doing?
9. In what position is she?
10. Compare this with "The Shepherdess." In which is distance better expressed?

II. Utilitarian and ethical.
1. An example of beauty and strength.
2. Expression shown in the human figure.
3. One of peasant woman's duties is shown.
4. Balance of the human figure given.
5. An idea of the method of gleaning the wheat is given.

Grade 5B.

Picture—"Return to the Farm"—Troyon.
Value.

I. Aesthetic.
1. Is this an interesting picture? What makes it so?
2. What is the most important part of the picture?
3. How is this brought out?
4. Is the dog glad to see his comrades again?
5. Are they all equally glad to see him?
6. Why are the trees and the cows at the left made so small?
7. In what attitude is the white cow?
8. Although all the animals are coming towards us, are they placed in the same positions?
9. What are the two cows on the left of the picture doing?
10. Do the trees add anything to the picture?
11. If the light cow were darker, would the picture be any prettier?
12. Does the lake add anything to the picture?

II. Utilitarian and ethical.
1. A beautiful landscape study.
2. A study of animal life.
3. An example of different positions.
4. Method of showing distance.

Grade 6A.
Picture—"Girl Spinning"—Millet.
Value.

I. Aesthetic.
1. What is this woman doing?
2. Does she make her own clothes? Is she suitably dressed?
3. Where is she?
4. How is her work held?
5. What has she in the hand which is down?
6. Is she anxious about her work?
7. Which is the most important part of the picture?
8. What can be seen in the background?

9. Why isn't it drawn more distinctly?

10. Should her features have been drawn more distinctly? Why not?

II. Utilitarian and ethical.
   1. Earnestness in one's work shown.
   2. An example of French customs.
   3. A good example of the placing of one figure in a picture.

Grade 6A.

Picture—"Washington Crossing the Delaware"—Leutze.
Value.

I. Aesthetic.
   1. Note the spacing of the figures.
   2. Note the placing of the central figure.
   3. Why is it placed thus?
   4. Note the action expressed in all the figures.
   5. What season of the year is it?
   6. What time of day is it?
   7. How is the distance expressed?
   8. What purpose does the light serve?

II. Historical.
   1. A stimulus given to the study of the Revolutionary War.
   2. A desire for the study of the life of Washington given.
   3. A good stimulus for the awakening of patriotism.
   4. A desire is formed for the research into one's own country's history.
   5. A good example of figure study.
   6. A splendid example of heroism.

Grade 6A.

Picture—"Infanta Margarita"—Velasquez.
Value.

I. Aesthetic.
   1. Does this little girl look natural?
   2. Would you like to know her name?
   3. Why was the name Infanta given to this child?
   4. From what country does she come?
   5. What sort of an expression do you find in her face?
   6. Is her face pleasing?
   7. What is peculiar about her dress?
   8. Do you think she looks very comfortable?

II. Utilitarian and ethical.
   1. A desire is given for the study of this child.
   2. A type of Spanish art.
   3. A knowledge given of the manner of dress in the seventeenth century.

4. A good study of a child.

Note.—Pictures by this artist may be seen at the Metropolitan Art Museum.

Grade 6A.

Picture—"Noble Charger"—Rosa Bonheur.

Value.

I. Aesthetic.
  1. Would you like to own a horse like this? Why?
  2. What does he seem to be thinking of?
  3. Are his eyes very expressive?
  4. Do the nostrils express anything?
  5. Do you think he would be hard to manage?
  6. Would he let you pat him?
  7. Would he be a good horse on the battlefield?
  8. Does he look like a lazy horse?

II. Utilitarian and ethical.
  1. A perfect study of a horse's head.
  2. An example of expression in a horse.
  3. A love for animals is awakened.
  4. A desire for the knowledge of Rosa Bonheur's paintings is awakened.

Grade 6B.

Picture—"Sir Galahad"—Watts.

Value.

I. Aesthetic.
  1. What does this picture say to you?
  2. Note expression of horse's face. What does it signify?
  3. Note manly form of Sir Galahad.
  4. Note position of figure in picture.
  5. Of what is Sir Galahad thinking?
  6. Does he look like an earnest person?
  7. Is his horse afraid of him?

II. Utilitarian and ethical.
  1. Who was Sir Galahad?
  2. About what time did he live?
  3. Explain "knighthood."
  4. A fine example of a "knight."
  5. A good study of the human figure.
  6. A love of the beautiful is awakened.

Grade 6B.

Picture—"Grace Darling and Her Father."—Brooks.

Value.

I. Aesthetic.
  1. Note the waves.

2. What kind of weather is suggested?
3. Where are the girl and her father going?
4. Is it hard for them to row?
5. Does the girl appear to be afraid?
6. Of what is the father thinking?

II. Utilitarian and ethical.

1. The dangers of the water are shown.
2. The feeling of one person for another in time of danger is described.
3. The great heroism as displayed by the girl.
4. The pride of the father for his daughter is shown.
5. A lesson is taught showing true Christian spirit.

Grade 6B.

Picture—"Infanta Margarita"—Velasquez.
Value.

I. Aesthetic.

1. What thought comes to you as you look at this sweet face?
2. What sort of an expression is shown?
3. Has she nice eyes?
4. What does her dress suggest?
5. From what country does this girl come?
6. Would you like to have this picture hanging up in your room?
7. Note the softness of her hair.
8. How has the artist managed the lights and darks?

II. Utilitarian and ethical.

1. A child study.
2. An example of sweetness of childish expression.
3. Royal dress is shown.
4. An example of Spanish art.

Grade 6B.

Picture—"The Shepherdess"—Lerolle.
Value.

I. Aesthetic.

1. What is the general feeling given by this picture?
2. Are the trees well placed?
3. Where is this place?
4. Is it warm?
5. What has the girl on her shoulder?
6. What is the man doing?
7. What time of day is it?
8. What can you see in the distance?
9. Are the sheep in a shady place?
10. What are the sheep doing?

11. What is the sheep in the foreground doing?
12. How is distance expressed?

II. Utilitarian and ethical.
1. A simple landscape study.

THE PERRY PICTURES—1,081. BROOKS.
GRACE DARLING AND HER FATHER.

THE PERRY PICTURES—756. MAUVE.
SHEEP—AUTUMN.

THE PERRY PICTURES—542. ROSA BONHEUR.
AN OLD MONARCH.

THE PERRY PICTURES—752. HOBBEMA.
AVENUE OF TREES, MIDDLEHARNIS.

2. A good example of spacing.
3. The effect of shade given by trees shown
4. An example of country life.
5. A feeling of rest is given.

Grade 7A.
Picture—"The Sower"—Millet.
Value.

I. Aesthetic.
1. What does this picture suggest?
2. Is the work of sowing seed tiresome?
3. Is the man's figure suited to his work?

4. Would the picture have been more pleasing if the man had been thin and weak?
5. What does the light in the distance suggest?
6. Note the placing of the sky-line;—its purpose in the picture.
7. Is the man entirely alone?
8. Does it make any difference to us how he does his work?
9. Where is the original of this picture?
10. Does the artist anywhere in this picture suggest the dawning of a brighter day?
11. Why is there so much dark in the picture?

II. Utilitarian and ethical.

1. An opportunity is given for the study of French peasant life.
2. A good study in action of the human figure.
3. A desire for Millet's pictures is awakened and also for a knowledge of the man himself.
4. Lesson of respect and admiration for the working man is learned.

Grade 7A.

Picture—"Avenue of Trees, Middleharnais"—Hobbema.
Value.

I. Aesthetic.

1. What part of this picture is most interesting?
2. Are the trees in the background as large as those in front?
3. Does the road look any narrower in the distance?
4. Is a very great distance shown?
5. What kind of trees are these?
6. Are they very tall?
7. Would they have been better if they had been trees with much foliage?
8. What is on the left of the picture?
9. What is on the right of the picture?
10. What effect has the sky?

II. Utilitarian and ethical.

1. A splendid example of convergence.
2. A splendid example of perspective.
3. Good spacing is shown.
4. A study of color values.
5. The method of showing distance in a picture is brought out.

Grade 7A.

Picture—"The Lake."—Corot.
Value.

I. Aesthetic.

1. Would this picture be as pretty if the trees in the foreground were left out?

2. What is the general tone of the picture?
3. Do the cows add anything to the picture?
4. What is the man doing?
5. How is distance expressed?
6. What season of the year is it?
7. Is it sunny on the lake?
8. Would the trees look prettier if they were light in tone?
9. Do you feel that the air flutters through the leaves?

II. Utilitarian and ethical.

1. Value of the different tones in color shown.
2. The beauties of Nature are portrayed.
3. A good landscape study.
4. Feeling of quiet and repose are given.
5. A means of expressing distance is shown.

Note.—Pictures by this artist may be seen in the Metropolitan Art Museum.

Grace 7A.

Picture—"An Old Monarch"—Rosa Bonheur.

Value.

I. Aesthetic.

1. What does the face express?
2. Would you fear this animal?
3. Are the eyes expressive?
4. Is the mouth firm?
5. Would he harm anybody?
6. Is the face characteristic of the lion?
7. What does the general expression convey?
8. Was it easy to paint this head?

II. Utilitarian and ethical.

1. A study of expression in an animal's face.
2. An example of strength and power.
3. An admiration for the artist is awakened.

Grade 7B.

Picture—"Landscape with Mill"—Ruysdael.

Value.

I. Aesthetic.

1. Would this picture be as pretty without the mill?
2. Where is this place?
3. Is the spacing good?
4. What kind of a day is it?
5. What kind of a sky is shown?
6. Is there much life shown?
7. Note the contrast in coloring. Is it effective?

II. Utilitarian and ethical.

1. A simple landscape study.
2. A good example of perspective.
3. A good example of spacing.
4. The value of lights and darks is shown.
5. A method of showing distance is given.

Grade 7B.

Picture—"Landscape, Spring"—Ruysdael.

Value.

I. Aesthetic.

1. What sort of a look has everything in the picture?
2. Is the tree in the foreground beautiful?
3. Is it well placed?
4. Does there seem to be much life expressed in the water?
5. How is distance expressed?
6. Why were the clouds painted white?
7. Does the whiteness of the water add anything to the picture?

II. Utilitarian and ethical.

1. A good study of a landscape.
2. An example of good spacing.
3. The value of lights and darks is shown.
4. A suggestion of summer pleasures.

Grade 7B.

Picture—"Sheep, Autumn"—Mauve.

Value.

I. Aesthetic.

1. Of what does this picture make you think?
2. Are these sheep going or coming from pasture?
3. Why did the artist paint them as going away from us?
4. What has the shepherd in his arm?
5. Do the sheep look pretty?
6. Do the sheep look natural?
7. What time of day is it? How can you tell?
8. What season of the year is it?
9. Is the shepherd kind?
10. What effect has the light in the picture?

II. Utilitarian and ethical.

1. Effectiveness of strong light shown.
2. An example of naturalness displayed in a painting.
3. A lesson in kindness given.
4. An example of good spacing.

Grade 7B.

Picture—"Dance of the Nymphs"—Corot.
Value.

I. Aesthetic.
1. Is this a pleasing arrangement of trees? Why?
2. What are these young girls doing? Do they seem real or fairy like?
3. Where are they?
4. What kind of a spirit are they in?
5. What feeling is expressed throughout the whole picture?
6. What season of the year is suggested?
7. Is there a pleasing distribution of light and dark?
8. What is the most attractive part of the picture?

II. Utilitarian and ethical.
1. A good landscape study.
2. An expression of life and joy.
3. A representation of good coloring.
4. An uplifting tone is given in the picture.
5. A good example of spacing.
6. A knowledge of the nymphs is desired.

Grade 8A

Picture—"Sheep, Spring"—Mauve.
Value.

I. Aesthetic.
1. What season of the year is expressed in this picture?
2. Why does the artist paint the sheep as coming towards us?
3. What does the whole picture express?
4. Is the grouping good?
5. Is the picture well balanced?
6. How is distance shown?
7. How is perspective shown?

II. Utilitarian and ethical.
1. An example of good perspective.
2. The method of showing distance.
3. An example of convergence.
4. An example of balance.
5. An expression of the season of the year.

Grade 8A.

Picture—"The Spinner"—Maes.
Value.

I. Aesthetic.
1. Are you interested in this picture? Why?
2. What is this woman doing?

3. What is she working with?
4. Is she intent on her work?
5. Is she working carefully?
6. Where is the light coming from?
7. Why did he make the wall light behind her?
8. Does she need it for her work?
9. Does the light add anything to the picture?
10. What two purposes does it serve in the picture?
11. Is this woman troubled about her work?
12. Where is she working?
13. Is she a young woman?
14. In what position is she?

II. Utilitarian and ethical.

1. A good example of attention to one's work.
2. The splendid effect of light is shown.
3. The method of spinning is given.
4. A fine example of expression in life.

Grade 8A.
Picture—"Halt in the Oasis"—Schreyer.
Value.

I. Aesthetic.

1. What did the artist express in this picture?
2. How do the men show that they are tired?
3. Are the horses tired?
4. In what attitude is the white horse?
5. Which man is the black horse's master?
6. What is the horse in back preparing to do?
7. From what country do these men come?
8. What have they been doing?
9. Would the picture be more attractive if the first horse were dark?
10. Are the men and horses warm?

II. Utilitarian and ethical.

1. A study in expression.
2. Value of contrasting tones shown.
3. The need of rest portrayed.
4. Love of an animal for its master shown.

Note.—Pictures by this artist may be seen in the Metropolitan Art Museum.

Grade 8A.
Picture—"Marine View"—Ruysdael.
Value.

I. Aesthetic.

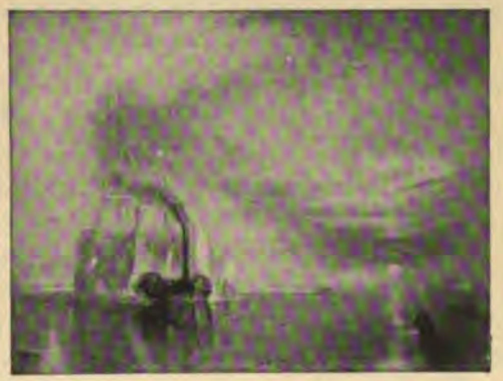
1. What kind of weather is portrayed?

2. Does the water look rough?
3. What is seen in the distance?
4. How is distance shown?
5. In what direction is the sailboat going?
6. What is on the right-hand side of the picture?
7. What effect does the light give?
8. What does the sky suggest?

THE PERRY PICTURES—484. COROT.
SPRING.

THE PERRY PICTURES. RICHTER.
QUEEN LOUISE.

THE PERRY PICTURES—575. BRETON.
SONG OF THE LARK.



THE PERRY PICTURES—882. TURNER.
THE OLD TEMERAIRE.

II. Utilitarian and ethical.
   1. A typical marine study.
   2. Good placing of the boat shown.
   3. Effect of strong lights and darks expressed.
   4. Life expressed in the water.
   5. Effect of action of sky on the water shown.

Grade 8B.

Picture—"Spring"—Corot.
Value.

I. Aesthetic.
  1. Does the spirit of this picture express enjoyment or sorrow?
  2. Note the woman. What does her attitude suggest?
  3. What are the children doing?
  4. Note the beauty of the tree in the foreground.
  5. Note how distance is expressed.

II. Utilitarian and ethical.
  1. A fine study of a landscape.
  2. A good example of brightness and freshness in a picture.
  3. A good study of distance.
  4. The love of nature is aroused.
  5. The artistic sense is cultivated.

Grade 8B.

Picture—"The Old Temeraire"—Turner.
Value.

I. Aesthetic.
  1. This looks like a phantom-boat with a puffing little tugboat bringing it into harbor.
  2. In what condition is the water?
  3. What is the effect of the dark boat against the light one?
  4. Is the sky beautiful?
  5. Does the reflection add anything to the picture?
  6. Is the picture effective?
  7. What kind of a vessel is the large one?
  8. How is distance expressed?

II. Utilitarian and ethical.
  1. A beautiful water landscape.
  2. The beauty of reflection shown.
  3. A study of effects of color.
  4. Beauty of contrast shown.
  5. An example of simplicity.

Grade 8B.

Picture—"Queen Louise"—Richter.
Value.

I. Aesthetic.
  1. How does this lady impress you?
  2. What does her face express?
  3. Is the poise of the figure good?
  4. Is she beautiful?
  5. What does her dress suggest?

6. Is she richly dressed?
7. What does her attitude suggest?
8. Why is the environment made so dark?
9. Who is this person?

Note.—A description of "Queen Louise" is required.

10. Is the figure well placed?

II. Utilitarian and ethical.

1. An example of a beautiful woman.
2. An example of a splendid poise?
3. Character is shown in the face.
4. An example of grace.
5. An illustration of court dress.
6. A desire for the knowledge of "Queen Louise" is awakened.

Grade 8B.

Picture—"Rembrandt"—Rembrandt.
Value.

I. Aesthetic.

1. This is a portrait of a great artist painted by himself. How do you think he managed it?
2. What expression is revealed in the face?
3. What manner of person is suggested?
4. What does the dress represent?
5. Note the hair. What date is referred to?
6. Who painted this picture?
7. Note the simplicity of the light and dark?
8. Was it an easy task to paint the picture?
9. Is the poise of the head good?
10. What nationality is portrayed?

II. Utilitarian and ethical.

1. A desire for the knowledge of the artist is awakened.
2. A type of a portrait.
3. An example of nobility.
4. Dress and customs of Rembrandt's time suggested.
5. An example of a great master's work.

NOTE.—The copies of Perry Pictures here printed are from electrotypes. The pictures, for sale, are superior to these in every way.

Picture Study for the First Three Years.

By Ida M. Brown, P. S. 55, Brooklyn, N. Y.

1. *"The Favorite."*—Heywood Hardy. 1A.

What do you see in the picture?

What has the little girl in her hand?

Why is she holding back the dog?

Where are the girl and the dog walking?

How do you know?

What has the little girl over her dress to keep it clean? What tied in her hair?

What is on the ground at her feet?

Does the girl look as if she were kind to the dog?

What do you see growing far back behind the two playmates?

What is growing beside the girl?

Is this dog very shaggy? What can you tell about his ears? What has he around his neck?

2. *"Kittens."*—T. Adam. 1A.

What do you see in this picture?

How many are there?

Which one is the biggest?

Where is he looking?

What has he around his neck?

Which kitten is smallest?

What color is he?

Where is the first kitten looking?

Where are they all sitting?

3. *"Comrades."*—Elizabeth Strong. 1B.

Who is asleep in the picture?

Who sits beside her?

Where is the child lying?

Why does the dog sit so close to her?

What has he around his neck? What color is it?

What color is the dog?

What was the little girl playing with before she went to sleep? Where are they now?

Is the ball all one color? Describe it.

What has the little girl upon her feet? What kind of sleeves has her dress?

Is the dog smooth or shaggy? .Describe his coat.

4. *"A Fascinating Tale."*—Mme. Ronner. 1B.

What three live things are in the picture?

Where is the old cat? Where are the kittens?

What color is the smallest kitten? The other? Which looks most like the old cat?

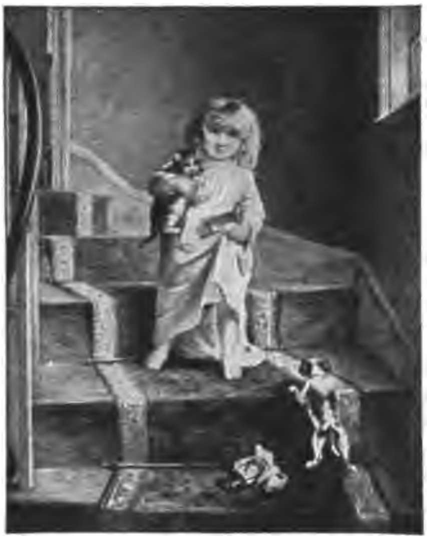
What are on the floor (or table) beside the kittens? What are piled behind them?

What is rolled up beside the inkstand?

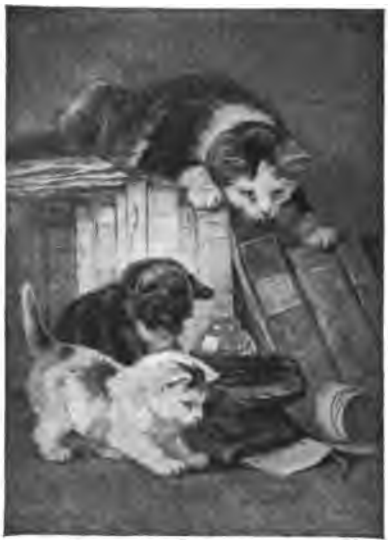
What do you think the kittens will do with it?

See "The Last Move," by Mme. Ronner (3B).

Mme. Henriette Ronner was born in Amsterdam. She is famous for her paintings of animals, especially those of kittens.



FAMILY CARES.



THE PERRY PICTURES—1,099.
FROM PAINTING BY MME. RONNER.
A FASCINATING TALE.

5. *"Family Cares."*—E. C. Barnes. 1B.

Who is in the picture? What animals?

Where is the little girl?

What are on the step below, that she has just dropped?

Where was she going before she dropped them? Why did she turn around and come back?

What is she carrying in her left hand? In her right?

What color is the cat?

What animal is on the step? What is he trying to do? What color is he? What is around his neck?

What are the stairs covered with?

What can you see up high at the right edge of the picture?

6. *"Kiss Me Quick!"*—E. Munier. 1B.

Who is in the picture? What is she holding? What does she want the cat to do?

What color is the cat?

Is the little girl pretty? Is her hair straight or curly? Light or dark? Long or short? How is her hair tied?

What color is her dress? What kind of sleeve has it? What is gathered around the neck of the dress?

See "You Won't Have Any!" (2B) and "At the Spring" (3A).—Same artist.

7. *"The Broken Pitcher."*—Bouguereau. (2A.)

Who is sitting in the picture? What is around her shoulders? How are her feet dressed?

Do you think she is a rich girl? Why?

What is on the ground at her feet? What is the matter with it ?

How does the girl look now that the pitcher is broken? Why?

Where is the girl sitting? What is that at the upper left hand side of the picture?

Why did the girl come to the pump? Do you think she is a city or a country girl? Why? Does she live in a flat country or is it hilly?

William Adolphe Bouguereau (born 1825) is a very famous painter. Noted especially for his figure painting. Married Elizabeth Gardner, an artist. See her pictures "Judgment of Paris" (2B), and "An Improvised Cup" (3A).

8. *"The Nearest Way Home."*—H. L. Jeunne. (2A.)

How many people are in the picture?

What is flowing along in front of them?

Where are they standing?

Which of the children is the bigger? Who stands in front of her? What has she in her left hand?

What has the boy hanging from his arm? Why is he holding the girl's apron so tightly? What else is he holding?

How are the children going to cross the brook? Why are they crossing it instead of going around it? Is it far across?

What is growing in the brook? What grows about among the stones? What is growing in the back part of the picture?

What season do you think it is? Why?

(*See page* 53.)

9. *"Saved."*—Landseer. (2A.)

What animal is in the picture?

Who is lying across his paws?

What is out beyond them where the ships are?

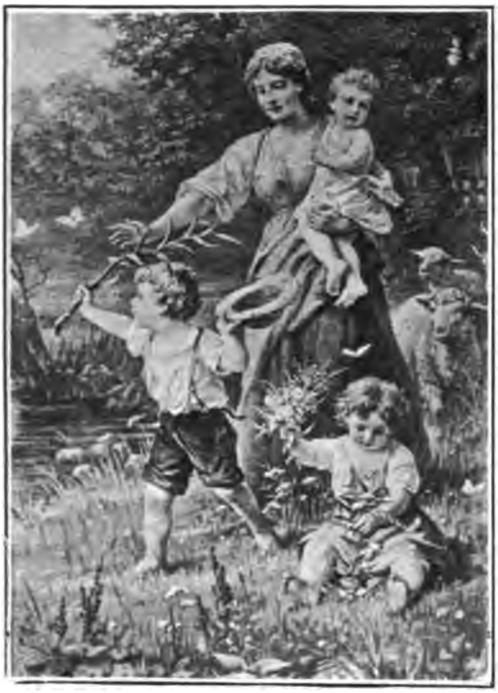
Where are the dog and child now? Where was the child a little while before? How do you suppose he got into the water?

What did the dog do after the child fell in? Where did he take the little one?

Is this a large dog? Describe his coat; its color; shaggy or smooth. What is around the dog's neck?

What other live things are in the picture? What color are they? Do you think they are good flyers? Why?

Sir Edwin Landseer (English), born in London, 1802. Noted for his paintings of animals, especially dogs. Came of a family of artists.



SUMMER PLEASURES. PLOCKHORST.

NEAREST WAY HOME. H. L. JEUNNE.

"WAIT A MINUTE!"
COPYRIGHT, 1894, BY PHOTOGR. GESELLSCHAFT.

THE PERRY PICTURES—893. FROM PAINTING BY LANDSEER.

SAVED.

10. *"Summer Pleasures."*—B. PLOCKHORST. (2A.)

How many persons are in this picture? Who is running ahead? Who is sitting down? What is the woman doing?

Are these city or country people? Are they rich or poor? Why? Look at the picture and see if you can tell where they live. Is it a very tall house?

What is the little boy trying to do? How many butterflies are there? Their color? What has the boy in his other hand? What is the little girl on the ground doing? What has she in both hands? What is flying over her head? At her side?

What does the woman wear on her head?

What kind of shoes have these children?

What are growing all around in the grass? What season is it?

What can you get a glimpse of, at the edge of the grass just beyond the boy? What is growing beside this water? Before the house?

What animals are following these people? What color are they? How many can you see?

11. *"Wait a Minute!"*—Artist Unknown. (2A.)

What do you see in the picture? What is in the little girl's lap? What is in her hands? What is she trying to do with the dog?

Where is the girl sitting? What has she been doing? What are on the table? What has the dog just knocked over?

What color is the dog? Large or small? Is he very shaggy? Do you think he likes to have the napkin tied around his neck?

Is the little girl having a good time? How do you know?

(*See page* 52.)

12. *"Judgment of Paris."*—Elizabeth Gardner. (2B.)

How many people are in the picture? How many boys? Girls? Who is sitting? Who are standing?

What is the boy offering the girl? Which little girl is prettiest? Which is dressed the best? What does she wear in her hair? On her feet? What about the feet of the other children?

Is the little girl glad to get the apple? How do the other girls feel about it?

What is growing back of the children? Where do you think the children are?

See "An Improvised Cup" (3A), same artist.

Elizabeth Jane Gardner is an American girl who has lived nearly all her life in Paris. Studied under Bouguereau. Her paintings are very like his. She is now his wife.

See Bouguereau's "Broken Pitcher" (2A).

13. *"You Won't Have Any!"*—E. Munier. (2B.)

What do you see in the picture? Which person is the older? What is she sitting on? What has she in her hand? What is in the basket?

What is the little boy trying to do? Why does the girl hold him back? What is she saying?

What is on the ground beside the boy? What is in the cart?

Where are these children playing? What are growing in the background?

What can you see at the right of the picture? What is the bridge made of? What do you suppose is under it?

See "Kiss Me Quick!" (1B); "At the Spring" (3A), same artist.

"YOU WON'T HAVE ANY!" E. MUNIER.

14. *"Children Wading in Surf."*—JOZEF ISRAELS. (2B.)

What do you see in the picture? How many children are there? What is the biggest one carrying?

Where are the children? Is the water very deep where they are? How do you know?

What have the children on their feet? What are they doing? What have they on their heads?

What is in the water beside the children? What has the boat to make it move?

Which child is not in the water at all? Where is he? How does he keep from falling?

What has the last child in her hand? What is she doing with her dress? What is she doing with her right hand?

Did you ever see water that looked like this? Where? Is it smooth all over? How does it taste? What do we call it? What is that long white foamy streak out in the water called?

15. *"Little Red Ridinghood."*—G. FERRIER. (2B.)

Who is in the picture? What is her name? What color is her dress? What is on her head? How is it fastened?

Where is she? What grows all around her? What season is it? Where is she going?

What animal has just come along? What does he want to do? What animal does a wolf look like? What kind of teeth has he?

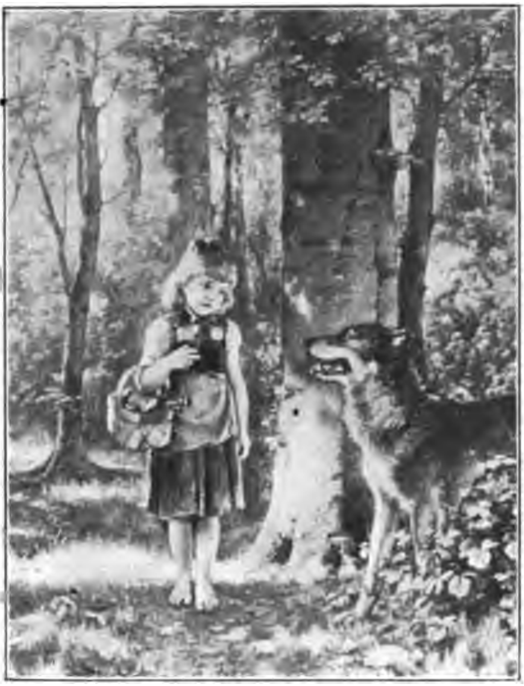
What has Red Ridinghood on her arm? What are in the basket? Whom are they for?

What has Red Ridinghood on her feet?

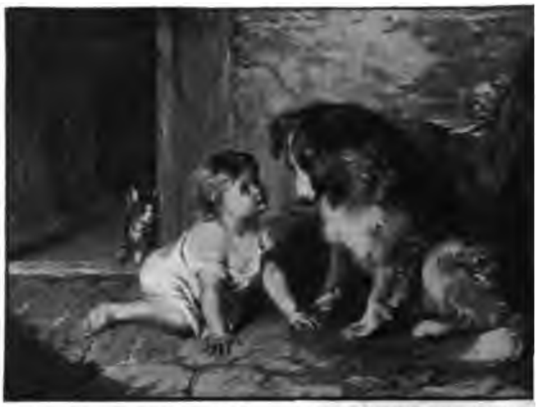
Is she afraid of the wolf?

What little things are growing close to her feet?

Have the children finish telling the story.



LITTLE RED RIDINGHOOD. G. FERRIER.



THE PERRY PICTURES—1,063. FROM PAINTING BY HOLMES.

"CAN'T YOU TALK?"

16. *"Can't You Talk?"*—G. A. Holmes. (3A.)

Whom do you see in the picture? What animals are with her?

Where is the little girl sitting? What pet sits beside her? Which is the taller? What color is the dog? Where is he white? Smooth or shaggy?

What is the child saying to the dog?

Where do you think the little girl has been just now? How is the door standing?

What is in the doorway? What color is it? Where is it going? Is it afraid of the dog?

What can you see on the shelf over the dog?

See "Kiss Me Quick" (1A), same artist; same or similar dog.

(*See page* 51.)

17. *"An Improvised Cup."*—Elizabeth Gardner. (3A.)

Who are in the picture? Are they in the city or the country? What season is it?

What has the woman in her hands? What is the little girl trying to do? Why don't they use a real cup?

Where is the brook that this water came from? Does it look deep?

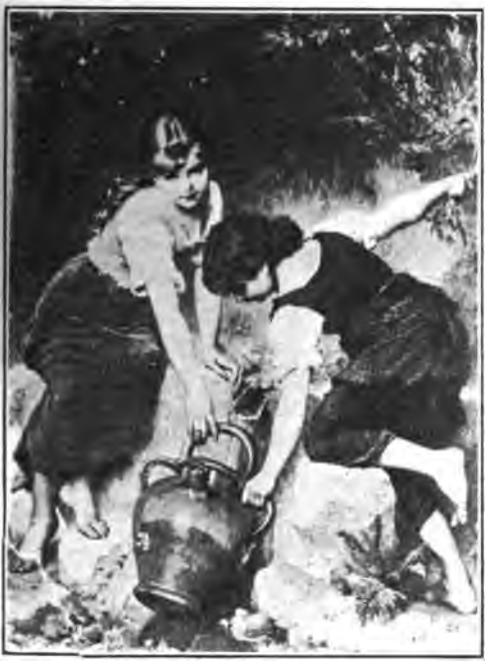
Why is the little girl holding back her dress? How are her feet dressed? Where is her other hand?

What is growing behind these people?

See "Judgment of Paris" (2B), same artist.

Elizabeth Jane Gardner is an American girl who has lived nearly all her life in Paris. Studied under Bouguereau. Her paintings are very like his. She is now his wife.

See Bouguereau's "Broken Pitcher" (2A).



AT THE SPRING. E. MUNIER.

THE PERRY PICTURES—1,337.
COPYRIGHT, 1898, BY E. M. PERRY.
FROM PAINTING BY BOUGHTON.
JOHN ALDEN AND PRISCILLA.

18. *"At the Spring."*—E. Munier. (3A.)

Whom do you see in the picture? What are they holding? What are they trying to do?

Where does this water come from? What has been built to carry the water? Where does the water go after it leaves the spout? Can you see any more besides that in the spout?

Do these girls look as if they were rich or poor? Are they city or country girls?

Which girl has the darker hair? What has she in her left hand? Her right? Why is she holding this plant? What is her knee resting on? What is growing at her feet?

Upon what is the other girl sitting? What is her hand resting on? What is growing near her feet?

What is growing behind these girls? What season is it?

See "Kiss Me Quick!" (1B) "You Won't Have Any!" (2B) same artist.

19. *"In Disgrace."*—C. Burton Barber. (3A.)

Who is in this picture? Where is she sitting? Why do you suppose she was put in the corner? Does she look happy or cross?

Who is cuddled up close to her? Why? What color is he? How do you think he feels?

What is spread out on the floor beside the dog? What lies scattered about broken on the floor?

Who do you suppose broke it?

What can you see at the right hand edge of the picture half-way up?

See "Charity Begins at Home" (3B), same artist.

20. *"Gossip."*—Marr. (3A.)

What people are in this picture? What animal? What color is it? What is it doing?

What are these girls working at? (Remind the children of their song, "Spin, lassie, spin." Tell them where the flax is, where it comes from, what is made from it).

What are these girls making the flax into? What will they do when the thread is made? Why don't they spin by machinery as we do now?

Describe the girls' dress. What do they wear on their heads, even in the house? How are their dresses made in the neck? What do they wear? over their skirts? Tell the children that it was just such a costume that t Dutch people in old New York wore.

What is just behind the girls, pushed up close to the window? V on the table? What is hung before the window to shade it? What day is it? How do you know?

What is on the window-sill? What is in the glass of wate

Are these girls working very hard just now? Call atter e ie, "Gossip" and explain. Call attention to the old-fashioned

(Picture in Metropolitan Museum of Art, New York.)

"John Alden and Priscilla."—Boughton. (3B.)

Who are in the picture? (Tell the name "Pilgrims.") Have the dren describe the man's costume—wide, tall hat, queer long coat with b or sash, knickerbockers, wide collar. Have them describe the woman's costume—hood, cape, short skirt, apron, Indian moccasins.

The people are going to church. What is the woman carrying?

What does the man carry? Does it look heavy? Why do you suppose he carries it?

What is the ground covered with? What season is it? Do you think these people are very warmly dressed? What have they on their hands? Do you think the Pilgrims were very rich people?

What can you see growing in the background? Tell some things that lived in the woods.

Speak of the danger from Indians and from wild animals. Speak of early Colonial life, people building their own houses, spinning, etc. See "Gossip" (3A).

Speak of the first Thanksgiving.

22. *"The Last Move."*—MME. RONNER. (3B.)

What do you see in the picture? How many old cats are there? How many kittens? What color is the cat?

Where are the cat and the kittens playing? What covers the table?

What is the black-and-white kitten playing with? What is he standing on? (Tell the children the name "chess.")

What is the old cat doing?

Where is the little white kitten? What is close to the table on which he is standing?

What is hanging to the back of the chair?

What is on the table behind the cat?

See "A Fascinating Tale" (1B), same artist.

Mme. Henriette Ronner was born in Amsterdam. She is famous for her paintings of animals, especially those of kittens.

PUSSY'S TEMPTATION. ROTTA.

23. *"Pussy's Temptation."*—ANTONIO ROTTA. (3B.)

Who are in this picture? Are they rich or poor? How can you tell? What animals can you see? Who has the cat? What color is it? Who has the mouse? What is it in?

Where is the boy sitting? What has he on his head? Why has he turned back the cuffs of his coat? What is he doing with the mouse-trap?

Does the girl's dress look new? What has she on her feet? Why is she holding up the cat?

What does the cat think about the mouse?

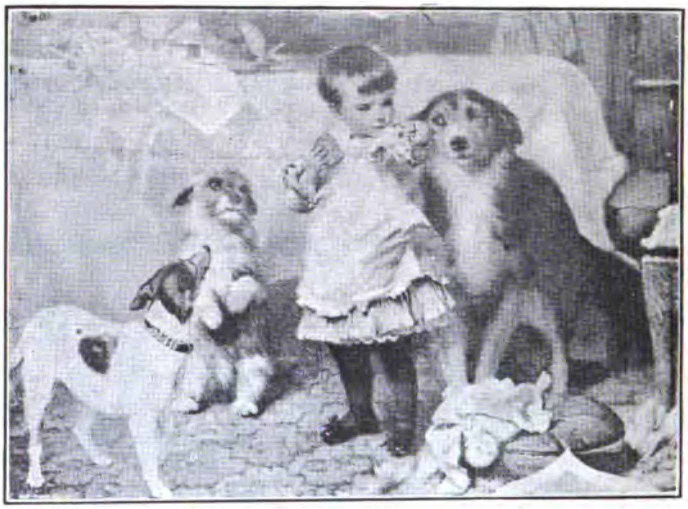
What is behind the girl? What dishes are on the stand? What hangs on the wall? What is the basket made of ?

24. *"Charity Begins at Home."*—C. BURTON BARBER. (3B.)

Who is in the picture? What animals are there? Which dog is the biggest? What color is he?

What has the little girl in her hand? What is she going to do with it? What do the dogs want her to do?

What is the second dog doing? How does he look? Is he smooth or shaggy? Why is he begging?



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CHARITY BEGINS AT HOME.

What color is the first dog? What has he around his neck?

Why has the child raised her arm? Does she want to give away the cake? Do you think she is a very poor girl?

What is on the table? What has the child been doing? What fruit can you see? Where did the little girl get the cake?

What things are on the floor? What kind of doll is on the stool? What is spread over the floor under the stool? What is it made of?

What do you think the child ought to do with the cake? Which dog wants it most?

See "In Disgrace" (3A), same artist; same dog.

LANDSCAPE COMPOSITION FOR ALL GRADES.

By CARRIE W. CONKLING, Assistant Supervisor of Drawing, Brooklyn.

In presenting the subject of landscape work to the children, try to get them to see a mental picture of what they are going to make, before trying to produce it on a paper, even to the very smallest in the first year of school life.

Talk about the sky and earth, and how the earth and sky seems to come together way, way off in the distance; think of the places you have been in, where you could see this—how the sky seemed to come down and join the earth in a line; how the sky seemed to come down and join the water in a line. How many have noticed this? Try to get their minds to follow you out of doors, to see such a picture.

Also call their attention to any pictures you may have in the class room, that would show clearly the earth and sky—noticing where the sky line comes, in the picture—Does the picture show more sky than earth? or more earth than sky?

Such very pretty effects may be gotten by using charcoal for the first lesson or colored crayon if you wish. I would not suggest water-color for the first lesson in the first year of school.

First, draw the frame for the picture you are gong to make—I usually draw the frame on paper, calling their attention to the length of the lines, for the 1A 1B grades.

Then I ask them to take their fingers and place them on their paper where the four corners of their frame will come, trying to bring out the correct size of frame. I would not have the frame very large, covering up all of the paper, but would leave a good margin all around the sides of the paper.

Have them select the color they are going to use for the sky, holding it up for you to see; if a purple color or any other color not suitable for a sky has been chosen, call their attention to it, bringing out why it is not right.

Then take the sky color, working from left to right, rub in smooth and soft, starting at the top of the frame—and going down as far as they would like to have their sky go—saving some of the lower part for the ground.

Let them show their work to you, by holding up their papers; no two papers should be alike as to the depth of the sky, as you did not dictate to them *where* to stop.

Next choose the ground color—showing you as before. Start painting the ground color at sky line, when you left off, going down, rubbing from left to right, to bottom of frame.

In the second lesson some very simple detail may be added, as a balloon in the sky—or a kite, or a bird; perhaps a bit of a fence, or post, or distant bushes could be added effectually. If charcoal has been used, the *touch* will have to be guarded carefully at first. The sky should be very light in tone, using the charcoal with a light hold on it, not grabbing

it tight in the hand, but held between the thumb and finger, not quite like *pencil* holding. The ground can be painted a little heavier touch. This is a very useful exercise for the little children; and it is quite surprising how well they can get the two tones of color, after a very little practice.

In painting the balloon, kite, or the bird in the sky, call their attention to the size as it appears when nearby, then when it starts and flies up, up and up, how does it look? When does it appear bigger? When smaller?

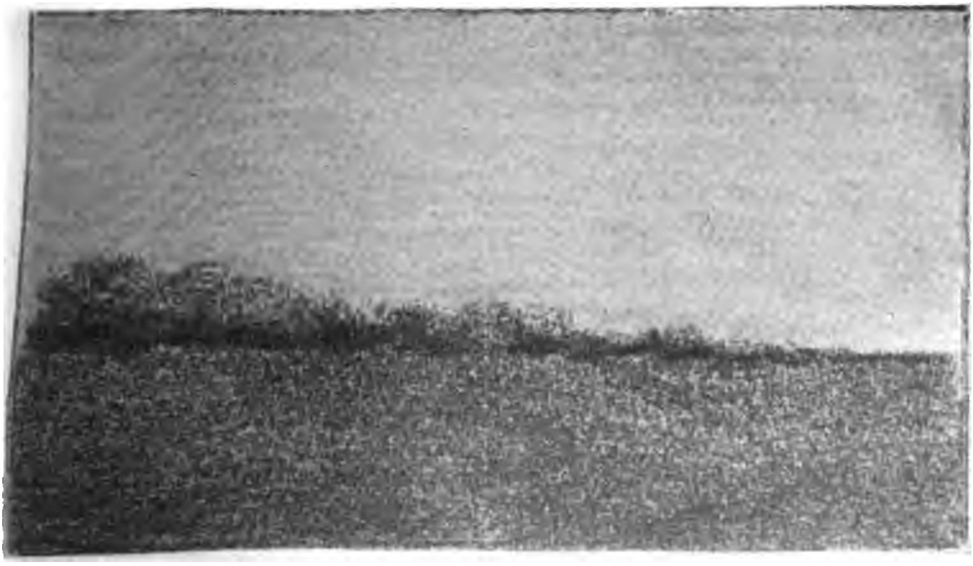
In taking up watercolor in the landscape work, the first thought should be, simplicity.

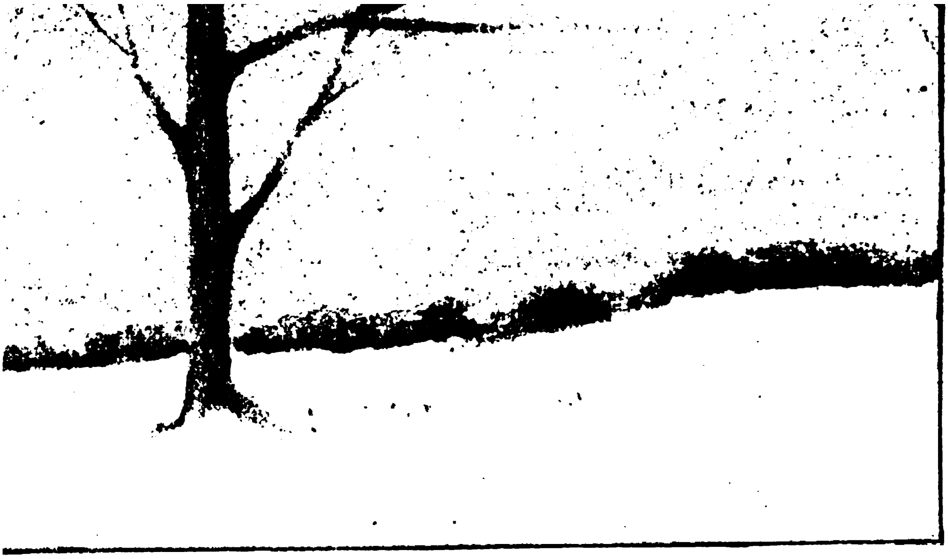
Simplicity in the composition of the picture, and also in the way of handling the brush with color; many mistakes have been made, because too much has been undertaken. Some teachers have felt that because the word landscape was used, that that meant rocks, trees, mountains, paths, water, etc., all in one picture, and the result in that case has been a failure, from an artistic standpoint.

Keep the work simple. Don't try to introduce too much in one picture; one or two details added will be much more effective.

Make the children understand at once about the handling of the brush—that finishing touches with the point of the brush are not to be made, but good, broad washes of color, spreading the brush out, is what is wanted—really seeing how few strokes can be used to cover the space.

Start at left hand corner of frame and give a good, broad wash or sweep across the whole distance without stopping—not coming back and touching up, as some children want to do. Show them how to do this. I find a good way, so all the children can see well, is, to draw the frame on the blackboard, then use a good size brush filled with *water*, not color, sweep across the frame with one stroke, then another, and another until all the space is covered you intend for the sky—reaching the sky limit. If in the first lesson you can manage the stroke, good results are sure to be gotten.





The handling of the brush is so different from the pencil, that the children are apt to want to make short strokes, and also to touch up here and there, going over parts. Insist that this must not be done; if the work is not satisfactory, they feel it; the only thing to do, is, to try it again. Take another sheet of paper—but never patch up in watercolor, because you will come to grief if you do. The pools of color are made first—three pools—red, yellow and black. Use plenty of water, and be sure the pool is big enough to last through the lesson, if flat washes are made, as it is rather hard to get the same tone of color twice. If you are painting a picture, this would not matter.

You will find your work more satisfactory if you do *not* mix green color in the bore or tray. To get your green color, work from the yellow pool, and from the blue pool, dipping the brush into the edge of the pool, rather than in the middle of the pool, in that way keeping the color pure and clean. Cleanliness is very essential in watercolor work. Wipe the brush when you have finished with one color, before taking another.

Wash in the sky color first, then ground color. Then the simple detail can be added. For the brushes in the distance or hills, use a color like violet gray, getting it by mixing the other colors that make gray, red, yellow and blue, but taking more red and blue than yellow—red and blue making violet. The three colors used in the same proportion make a blue gray.

If you wish a blue gray, take more of blue than of the other two colors, red and yellow, and so on with all of the other tones of gray you might wish to make.

For the tree trunk, use the three colors, red, yellow, blue, mixing until your color seems to come out like the dark color of the trunk of the tree.

For an autumn scene, if you wish the bushes in the distance to show more color, float in some yellow or blue, with the violet gray we have spoken of before. I would keep the stroke horizontal for the distance.

I like a lesson with no special picture to look at, composing it as you go along. For instance, say to the class, paint the sky to represent any time of day you would like—blue, very light blue for a clear day, or gray for a cloudy or gray day—yellow and red mingled for a sunset sky. Think carefully what you would like to do, and how much of the picture you would like to do, and how much of the picture you would like to use up for the sky. Then go ahead.

These illustrations can be carried out with charcoal, getting the different tones of gray, with colored crayon, with watercolor, or with lead pencil.

WATER-COLOR IN ELEMENTARY SCHOOLS.

By Ethelyn F. Schaurman, Pratt Institute, Brooklyn, N. Y.

THE use of a purely artistic medium in the elementary schools has called forth a vehement protest from the uninitiated, who emphasize the importance of endless drill in the necessary "R's" and deny the possibility of another point of view; asserting with cumulative stress that *all* the time is needed to properly establish the indispensable three fundamentals instead of squandering precious minutes dabbling in water-color. A similar protest sounds forth from the inner circle of the elect, where one high in authority, duly appointed to safeguard the public finances, solemnly pronounces as scandalous the placing of water-color and kindred "fads" in the elementary school system. It is further declared to be a pernicious and unwarranted abuse of the public funds, a sinful sacrifice of the scant time allotted the average child in which to acquire the fundamental knowledge that shall adequately prepare him to maintain a part in the intense drama of life—a life beset on all sides with problems that test to the uttermost the most complete and well-balanced equipment.

In the light of this arraignment, we who believe in the positive value of these derided so-called non-essentials, considering them important: yes, incontrovertible factors in a perfectly balanced development, must enlighten the darkness of those who believe not, and must substantiate our claims. The tax payer is obviously just in demanding that precious minutes devoted to qualifying in a supposedly unnecessary "ornament" shall yield a vitally educational return for the money and time expended. There is much also to be said in behalf of the conscientious instructor who quite naturally labors in spirit over the already crowded schedule trying to solve the possibility of making several quarts fill a pint measure. They keenly realize personal limitations in artistic expression, and the great need of special preparation to properly relate this particular side of art training to the harmonious unit of education.

Hoping to encourage these receptive and eager instructors, whose fine general preparation makes them especially sensitive to restricted expression in an unfamiliar medium, and to assist them by helpful suggestions on the technical side, we are led to the inquiry: For what are we working?

The limited experience and the special instruction possible in a general treatment of the subject cannot in any wise be considered sufficient to establish even the preliminary technical knowledge required to produce an artist. It can, however, place a definite appreciation of the relation of art to the individual and his environment. To regard this elementary work in a more limited sense would be futile and hopelessly false. The need then is to educe a clearer preception of this related whole and to demonstrate the enlarged possibilities of the individual by a wide application of these general principles which our much despised non-essentials are expected to create.

Most assuredly we do not place this most subtle of mediums in the elementary schools chiefly to satisfy a desire to "do something" with brush and color; nor yet to give ability in brushing in a crude if fairly recognizable representation of various objects in pure wash—flowers, still life, or other desirable subject material—in most cases the purity of the wash claiming more attention than the fundamental study that makes the fresh color expressively worth attention. We hear again and again the enthusiastic instructor claiming with beaming satisfaction that the children can lay a "clear, sparkling wash" without touching back into the fresh color. "No muddy color" is the watchword and a clever trick the end and aim of water-color. We ask: "Qui bono?"

A brilliant handling *is* admirable and characteristic of a certain kind of water-color. It is good as far as it goes. But we cannot consider so limited a control of wash flexible enough to give a bread-winning skill; and. unrelated to the larger conception of education, it will not increase their versatility by providing one more possibility with which to face the urgent demands of our everyday problem of existence. The power of free expression has been more or less handicapped by restricted method. We are entitled to expect our specialty to yield more vital results than a mildly cheerful technique. If cleverness is our only goal, then let us devote the time to something more *real* in the line of regular work.

What then are the essential points to work for, and how are they to be realized?

All art suggestion in the educational system is primarily and finally intended to establish,—coincident with the grade subjects,—an understanding of the fundamental principles at the basis of all the arts, artistic and mechanical, so that these great structural truths, which are as sound and enduring as the eternal verities, may be incorporated in the sum of necessary knowledge with which every child should be provided to properly adjust himself to life.

This awakened "Art Instinct" stands for infinitely more than the pictorial side of art. Mortimer Menpes in his delightful "Record of Color in Japan" speaks of this "feeling for art as an essential condition of life," and, to make it more pronounced, says it is "a living art, as art in Greece was living, forming part and parcel of the very life of the people." And again, with more emphasis: "It would be utterly impossible for the Japanese to keep art out of their lives. It creeps into everything, and is as the very air they breathe." The ordinary individual in Japan has at his command more sound art intelligence than many of our western people acquire in a lifetime of experience. From the far east comes a forcible example of what the training of the individual mind, hand and heart will produce when coalesced into the concrete mass, alive with patriotism, instinct with a quickened intelligence, able to wield a sword in fierce conflict, to design it as a work of fine art, and also possessing a practical knowledge of its construction. Is it not self-evident that an individual whose whole being is under control, an entity that can think and act with balanced intelligence, individually and collectively, must prove a more efficient citizen, patriot or artist mechanic than one whose horizon is limited by physical requirements; who never rises above the elementary routine of animal life: a sluggish body because of an unillumined mind and heart.

From a mind and body disciplined in patience and self-control, a heart burning with loyalty, a judgment that is the result of generations of an inherited art training,—in which the nation is acknowledged to be pre-eminently great,—with a background of great masterpieces of art and of heroic self-sacrifice to inspire artist and heroes alike: we have as a result a nation, rising in fifty years from comparative unimportance to a place commanding attention and world-wide admiration.

Our purpose, then, is to make this strong unity possible in our work with the children by contributing in a quiet, unobtrusive way, toward a higher type of efficiency; by presenting through our particular specialty and high ideals some vital quality, the trend of which shall be to at once influence the tone and character of the individual Head, Hand and Heart, and indirectly to raise the standard of public taste,—to place a broad, wholesome, sane intelligence as a sub-strata of our national civilization, without which it has no permanence intellectually.

The tremendous throbbing heart beat of our vast national industries, active throughout the length and breadth of this very much alive country, is dependent on the trained or untrained material furnished by a vast army of men, women and—it is to be regretted—children, who pulse in and out of these huge industrial arteries most of their existence, sustaining the vitality of the nation's energy and progress. To raise the quality of this industrial unit, to meet the ever-increasing demand in a great number of lines for more skilled workmen, and to stimulate general adaptability, that shall fit for any position requiring intelligence and skill, be it craftsman, mechanic, designer or clerk, is our aim; and to this test must we balance our share of the great responsibility of elementary art training in the public schools.

To realize this element in the architecture of our national education calls for a broad application of our art principles, exemplified in many activities, made real by service to the ordinary everyday life of the people, be it in this or that strata of the body social. No interpretation of our specialty which produces dexterity alone will adequately meet the requirements of so large a view of art education. We ask a rendering that shall include not only the technical thoroughnes necessary to be of any commercial value whatsoever—consistent with time allowance—but be the connecting link relating it to all legitimate activities. It is this eminently practical view of elementary art training to which we should devote our best endeavor and unswerving allegiance.

Our point of view found, a judicious selection must be made from the abundance of material available of a few important basic principles that shall insure the adequate placing of vital truths simultaneously with the general advance in knowledge from the least to the greatest, the welding of apparently dissimilar properties, Art and Science, the one supplementing and assisting the realization of the other.

In this logical and perfectly harmonized sequence, our subject, water-color, stands for one note only in the complete chord, one factor only in the many means used to establish the "art instinct" and to make it a conscious power in the hands of every child whose education will spell succes or failure according as he is able to use the varied knowledge assimilated in the eight years—often less—of elementary training received in the public schools. That many do fail and fall by the wayside helplessly incompetent, lacking in an all-around adaptability, is pitifully true. The more general and definitely real we can make our application of a few universal art principles to *life,* the more hopeful the outlook for making a harmonious adjustment probable in the lives of the less gifted few—types familiar to us all—who seem utterly incapable of seeing and appropriating the free-to-all possibilities within their reach; these exceptions who fail to find their just relation to the world's work unless every advantage be in their favor.

We cannot expect every child to profit with equal readiness. One will find this or that particular phase of art work appealing directly to a responsive something within themselves. Through this affinity comes our opportunity by analogy to enlighten subjects with which there is no sympathy; one illumines the other. Proportion is thus preserved and a better balance of power achieved.

Our specialty, then, is but half alive if it throb not in unison with the whole scheme of education. Is it helping to build up a just understanding of Relation and Proportion? Potent words, taken in their full significance.

Art demands in its complete fulfilment perfect relation between its parts. Nothing is absolute except so far as it is *in accord with its surroundings.* The repose and peace of the home is destroyed by an unrelated element out of tune with its environment. And the larger circle of the outside world is incited to unrest and discord by a turbulent incendiary spirit subverting the public tranquility. We need not the brutal violence of the outlaw to convince us of the unrelated sociological condition of the community, at war within itself, where such a lack of unity prevails. In the world of agreeably related sounds, known as Music, the perfection of our enjoyment is interrupted by the intrusion of false notes in the perfectly harmonized whole. The beauty of the chord has vanished until the dissonance is lost in unity by modulation. In an unguarded moment the artist allows a false note of color to disturb his values: the harmony is gone. The sensitive eye rejects this unrelated note and the responsive soul recoils as from a blow until a new relation is established, restoring the perfectly balanced harmony. Any violation of physical or moral law has its penalty of pain or retribution, until the required harmony and adjustment restores peace and repose.

To fully realize the universal importance of this vital principle of perfect relations, follow it through your day's experience at home or abroad, in a desire to produce a complete harmony with your environment.

Consider for a moment another sound basic truth in our creed of art principles: Proportion. Is it not the very framework on which we depend for a fine distinction in that division of areas at the base of every great composition, which in the working out resolves itself into an abstract pattern affecting the life and subtility of the picture. It enters into the architectural and constructive features of the successful office building no less than into the entrancing beauty of Cologne cathedral. We all recognize the sad results of insufficient knowledge of proportion in the inappropriate and awkward use of a prevailing mode in the so-called artistic creation of the milliner or dressmaker who knows naught of art. It is of unlimited value to everyone who seeks that perfect poise so desirable and so dependent on just proportion. It governs the classic beauty of the Praxitelian Hermes, and assists in the marvelous beauty of the Venetian colorists. Art, Literature and Science: each draws its portion from the common fountain of universal helpfulness. Proportion enters into every known device affecting the material life of man; and is equally efficient in preserving a just balance on the spiritual side, in relating the well-being of the inner life of the soul to the outer and visible expression of human existence.

Having, then, two of our constructive principles, Relation and Proportion, on which to build our art intelligence, and which must be kept ever in touch with everything we influence, we have to gauge by comparison our use of them to find if it rings false or true, inharmonious and hopelessly out of value, or gloriously in tune with universal law.

Perhaps the art course calls for a delicate flower (or any other subject) as the motif for study. You select from this objective material a Harmony in Color which you hope to express in water-color pictorially. Before this color scheme can take shape, the material side of your subject must be understood. The subtility of its proportions must be observed; its characteristic shape memorized in mass and later in detail; growth and development noted, the poise of the flower on its delicate stem realized, and the whole made to move with great charm of line. All these qualities must then be united in a convincing likeness to the spirit of the model chosen: no slavish *literal* copy, but an *interpretation* of the best that the model affords; an able selection and arrangement, the mastery of which forms an inseparable part of the vitalized color expression. Without this comprehensive analysis, conscious or unconscious, the shapeless blot remains spiritless and dead; unmoulded clay before the potter awaiting the magic touch creating the semblance of life and soul. With such a virile touch does Rodin evoke an almost human life in his puissant conceptions, apparently palpitating with the emotional striving of the soul.

In this preparatory thinking and doing is sounded the first note of development. Desire to select the most beautiful aspect of our model and to represent it under the most perfectly chosen and subtly related surroundings, calls into use the power of discernment. Add to this achievement the charm of just values in color and you have a problem requiring full concentration and liberty of choice. Go further and read into your representation a quality that shall distinguish the doing and seeing, that shall take it up out of the ordinary commonplace *explanation of surface* and *matching of colors,* lifting it into the higher, more artistic plane of poetic refinement or bold dramatic force seeking an outlet for expression according to temperament: The constant repetition and application of these essential art principles in a variety of experiences help to fix them indelibly in the mind, to form a governing artistic power.

The uncertain, illusive technique of water-color provides a relentless but invaluable discipline for Eye, Mind and Hand. Peculiarly valuable is it in concentrating the attention to *exact observation* and *comparison*. The mind soon establishes the habit of rapidly arranging the material chosen in a well ordered sequence. The wash once started can then move forward uninterruptedly,—a great desideratum. Delay in a pure wash technique often proves fatal to that suave, unbroken atmosphere so fascinating in water-color, producing inflexible edges very difficult to overcome. The ordinary penalty for a break in the movement is a dry, hard result, unsympathetic and dead. One note after another must fall into line in a way to leave no portion of the work unguarded,—to dry in untimely stiffness,—until quite ready to sweep the remaining pool of color to the outer limit of the completed representation.

To do this successfully requires a general's command of the field: the eye alert, the hand quick to follow the mind in controlling the free brush and full blot, increasing or retarding the flow of the wash as the occasion directs; continual change. The blot always full is ready to move on in this or that direction, now here, now there, to keep all parts of the sketch wet at once, to be worked on at a moment's notice. Correction to a limited extent is possible while the wash is open,—rarely advisable in radical cases: better a fresh start. In this respect is there an incentive to directness and simplicity. The worker moulds and shapes the puddle of loose, fresh color with intelligently directed brush strokes that appear to sense the form in the rise and fall of up-lifted or depressed curves, the advancing or retreating perspective difference suggesting the third dimension. Pushing out from the center of the mass in the general moulding of large forms, a natural progress of development leads to the particular shaping of the modeled outline and the emphasis of accented edges. High lights are left clear or may be lifted out with clean damp brush and bit of muslin. Expressive darks touched into the general mass throw up and expressively form the important shapes of light, the two representing a pattern of light and dark areas, the working out of which forms the abstract design of the composition. The question of Dark or Light touches holds the attention from first to last. Cold and warm tones supplement or oppose in effective contrast to produce brilliancy. Near and far colors assist in the illusion of distance. Bold, intense color notes represent the near view. As the plane recedes, the intensity perceptibly decreases. Quieter tones serve to enhance the small proportion of pure local color, which by comparison appear to sound forth in clarion tones the live note of our picture.

The advisability of keeping pure color is made reasonable when the worker discovers that the life and variety of the sketch depend largely on the virility of the fresh, sparkling blots of vibrating red, blue and yellow, a quality easily obtained by drawing directly from the moist pigment with a full brush. Each separate color is then touched into the blot, care being exercised not to confuse or stir together on the palette, but to permit the combination to blend naturally in the pool, working on the basis of red, blue and yellow as the fundamental triad, to which we look for the infinite variation possible in the mystery of color gradations. Work must be done boldly with full confidence. Nothing is so deadly to satisfactory technique as indecision and vacillation. To proclaim one's inability to decide the point in question is humiliating evidence of more vital defects than a muddy sketch. Better a frank wrong than to waver on the fence of uncertainty. Correction at inopportune moments is sadly destructive to quality. The moral is clear: Don't temporize. Directness and clearness mean life and sunshine. Cultivate both at all costs consistent with truth.

The pure wash is undoubtedly the most practical technique for use in the elementary schools, though it is wise to guard against bigotry in this respect. Other methods *are* possible. Many people find this restrictive use of wash almost prohibitive. Naturally slow, they require more deliberation and less speed. The free expression of ideals is for them cramped, smothered or greviously hampered by the fear of "spoiling" the purity of the wash, a "muddy" result being pronounced with horror—a cardinal sin. No less authority than the gifted artist, Irving R. Wiles, advises a student not to fear producing a muddy result if valuable knowledge may be gained by the experiment. Out of darkness into light on a higher plane is reasonably sure to follow.

If the picture to be painted needs to be fully imaged in the mind before it can be transferred to paper, why may not this training aid in memorizing the picture of a word or a group of letters forming a word, to be reproduced at will. We hear so much about the lost art of spelling, said to be the result of crowding the schedule with "extras." Why not use the good, helpful discipline of art to make spelling easy? Beautiful line makes itself felt through fine examples. Proportion calls for effective grouping, which can be made individual through personal arrangement. All written exercises can be vastly improved by reflecting the laws governing art composition. They serve equally well to insure satisfactory penmanship, or to inspire pictorial composition. Music is so closely allied to art that both act in unison to make reading full of color and tone,—rhythmic and melodic. How poignant with meaning is every important art principle when used to make clear other lines of work.

There can be no question of "frills" with such verities on which to base our art education. Technical difficulties are resolved into personal devices to express a given thought. In no way is technical precision undervalued. Where the point of view is clear, the thought suggests the shape in which it must appear. Imitation is certainly a short-cut to immediate results, but do we become imitators, or have we received permanent material on which to base future work? Receipts are constantly in demand and easy to give, but does it stimulate further investigation because our thinking has been done for us. Go to the foundation and know the why. It unlocks the door to what is beyond. Carefully selected, illustrative material is invaluable as suggestion, and there is nothing so inspiring to personal endeavor as to see good pictures. No distinctive work can be produced by instructor or pupil where experience does not include familiarity with the masterpieces of Art, Literature and Music. This experience must far outstrip what for the moment we have skill to do. These great conceptions serve as ideals toward which we strive.

"Oh, but a man's reach should exceed his grasp, or what's a heaven for?"

If we can read the significance in a great work of art, can follow the artist as his thought is mirrored in the creation of his soul, it is likely to find some echo in our less articulate expresion. We cannot mark with two great emphasis the point of view. Robert Louis Stevenson tells us that "any man can see and understand a picture. It is reserved for a few to separate anything out of the confusion of nature and use that distinctly and with intelligence." We help to a slight understanding of this principle in out water-color work when a few important characteristics are made to represent the general mass of facts.

All primary thinking with brush and color is necessarily crude at first. Advancement is the fruit of experience and persistent effort. It is folly to hope for the perfection of a master in the faltering utterance of the child or tyro in art. Be content to grow as the flowers grow, reaching ever upward toward the light. Believe the most naive and humble endeavor to be worth consideration, if sincere to the inherent truth and spirit of things as they are. Art imposes no moral obligation, compelling our acceptance of any pre-ordained standard of seeing and doing. The wide freedom of choice possible makes the charm infinitely greater and the quality of the result entirely dependent on personal insight. Behold a man richly endowed with a wealth of imagination. He at once lifts our thought out of academic routine into the realm of fancy by the exquisite beauty of his ideal conceptions; where, says one critic, "It is enough to look, to absorb, to dream to enter into the spirit of the vision; to be carried away by it and to be glad."

Another man makes his appeal to our love of home and all that it stands for. He tells of the dignity of toil; of the simple, wholesome lives of the strong, weather-beaten men and women, whose rugged forms tell of continual hardship and of endless labor. With the awakening dawn go they forth to wrestle with the soil. As the day sinks in the west, the purple dark follows their return,—bent, weary, ladened with the fruit of their honest toil,—to the blessed rest and repose of home and family. Man and nature are used to express a great universal law: "In the sweat of thy face shalt thou eat bread." But our idealist makes man and nature serve as the substance with which he produces wonderful harmonies that inspire our souls to music and poetry. We care not if his rhythmic figures are anatomically constructed or not; still less that the landscape shall represent a particular locality. It is adequate. We live in fancy and receive an inspiration that transcends earth or sky. Nothing counts but the expression of ideals.

The second artist with great reserve bids us realize material substances so far as they serve to express the stern, though cheerful life of unremitting toil. He makes us feel the tense strain of the oxen as the earth is turned in the flush of breaking day; the patient sheep before the fold, awaiting the shepherd's watchful care. The thought always dominates rather than obvious realism. Ruskin strikes deep in defining "Conception: fundamental brain work, that makes the difference in all art."

To gather up the threads that make the warp and woof of our purpose of instruction is to realize that our water-color must stand for *art* in its broadest sense; to be used freely in an *infinite variety* of *ways,* to increase the comprehension of *expression.* It shall assist us to make clear the relation of art to universal law, and also give a fairly good idea of color harmony, to the end that art may not be confined to the minority, but become in a general sense the heritage of the nation. It has recently been said of this country that we have made enormous strides in the past century. Already great in finance and destined to lead the world in manufacturing, we are now awakening to our artistic possibilities. It now remains for those who lead the children in our splendid system of public education to hold fast that which tends to form the tone of public taste in sound fundamental art principles, and to give through the water-color the laws governing the harmony of color. Primarily not to make drill in technique alone in any particular phase of the art study the only good, but to so embue our nature with the appreciation and love of beauty that it shall enter into its life. That our cities shall be no longer dominated by a mercenary spirit that is content with utility alone; but shall reflect the artistic expression of a people, great in the possession of the undying treasure of Art.

DESIGN IN THE GRADES.

By Sylvie de G. Coster, Instructor of Drawing, Morris High School.

AFTER all is said and done, after the new fashions in education have been followed faithfully and the results investigated, these will be found to be valuable as they tend to a better appreciation of certain fundamental principles and the ability to apply them. The principles that by their presence make the ingenious devices of the modern teacher worth while are the old-fashioned ones taught under abstract names in all art schools. Therefore the teacher who is ignorant of these finds herself in the questionable position of attempting to translate into concrete example and familiar juvenile terms a principle which she can neither understand nor formulate for herself. I need not say that it is to help such teachers that the numerous courses of study and the still more numerous supervisors have been established. These two have proved but mitigated blessings. Usually the courses of study have busied themselves with individual examples, omitting to clearly set forth the principles these examples are to embody. Too many times the complaint is heard, "Where is the thread?" Of course, there is a thread, but if that thread is important to anyone it should be important to the class teacher on whose work its elucidation depends. So in this paper, which is meant for those who would understand their work to its full depth, I shall deal more with the fundamentals than with the examples. As to the latter, it is the privilege of every first-class teacher to invent them anew each recurring season, with brighter analogy and illustration as her own knowledge of child-life grows more vivid.

First, the teacher should understand distinctly that design is not solely decoration. You speak to a teacher of the subject of design and she promptly exhibits every symptom of mortal terror. "Oh, I myself could never draw, and how am I to teach the children!" The training school and the substitute service and the endless teachers' meetings for instruction have dissipated this feeling to some extent, but there is still a lingering doubt that to teach design one must force the pupils to draw patterns. I think it would be well to place a firm distinction between the meaning of design and the meaning of delineation. The latter gives visible shape to the decorative unit selected, the former places it according to law.

For example, after much tribulation of soul the majority of the class have mastered a three-cornered unit looking something like the Arabic trifoliate. At least, to the satisfaction of the teacher, they have varied the dictated shapes and are ready to apply the results to the envelope or portfolio they are to decorate. This latter step, if they have a good teacher, they do in accordance with the laws of design, and this is the sole part of the work that has anything to do with design, or, begging the pardon of those who disagree with me, that teaches them a solitary thing.

The first ingenious variation of a dictated form, be that form a unit in itself or a space to be filled, is an exercise of the imagination strengthening to that function, but not opening the mind to the appreciation of principles heretofore unguessed. The placing of any unit, the arrangement of various elements according to strict law, the invention of faultless methods to bring about certain results—in these alone consist the benefits of the teaching of design.

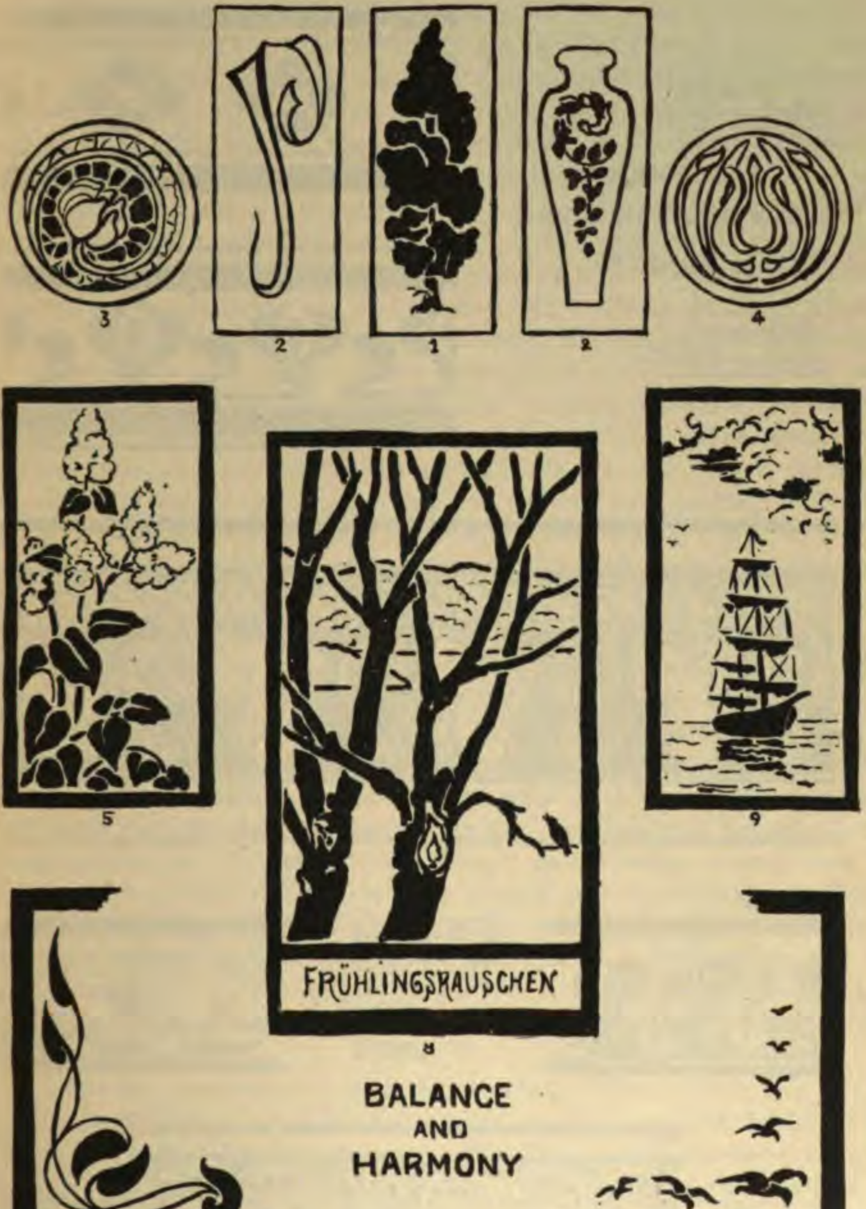
Not once again in his life will the average child see or use the adaptation of the Arabic trifoliate with which he has decorated his portfolio, but many times a thousand times will he be confronted by corner designs, and probably a few less times will he have to decide between them.

Nor is it impossible to emphasize the value of abstract principles to very little children. They may themselves prove the factors of several interesting exercises to bring about an appreciation of the laws of repetition, of balance, of harmony. A child of six will appreciate the fact that five children may not be placed as well in a four-cornered room as four, unless the fifth should seek the center. Those a little older may be taught the structure of the border from the daily march. But how is the teacher to emphasize these laws if to her they are a dead letter? Nor is it necessary that she should be an accomplished artist in order to know the simpler principles that seem to underlie the value of the teaching of design in the public schools.

There are certain problems assigned for each grade. In the mastery of these there is much paper, time, sometimes paint and always patience wasted. When the work of the lower grades is complete the children should have learned (1) to measure an even distance from an edge, (2) to place recurrent units on a line, (3) to obtain even intervals. *These three things come the law of repetition.* Many times work is pretty and ingenious, and the proud teacher exhibits it as a fine example of the problem of the grade, while in reality it fails to present the correct designing called for. This is a serious mistake, bad alike for the pupil and the teacher. If the law of repetition—supposing that to be the principle involved—be insisted upon systematically, the single gifted individual in the class will not fail in this and will prove a help to the others also.

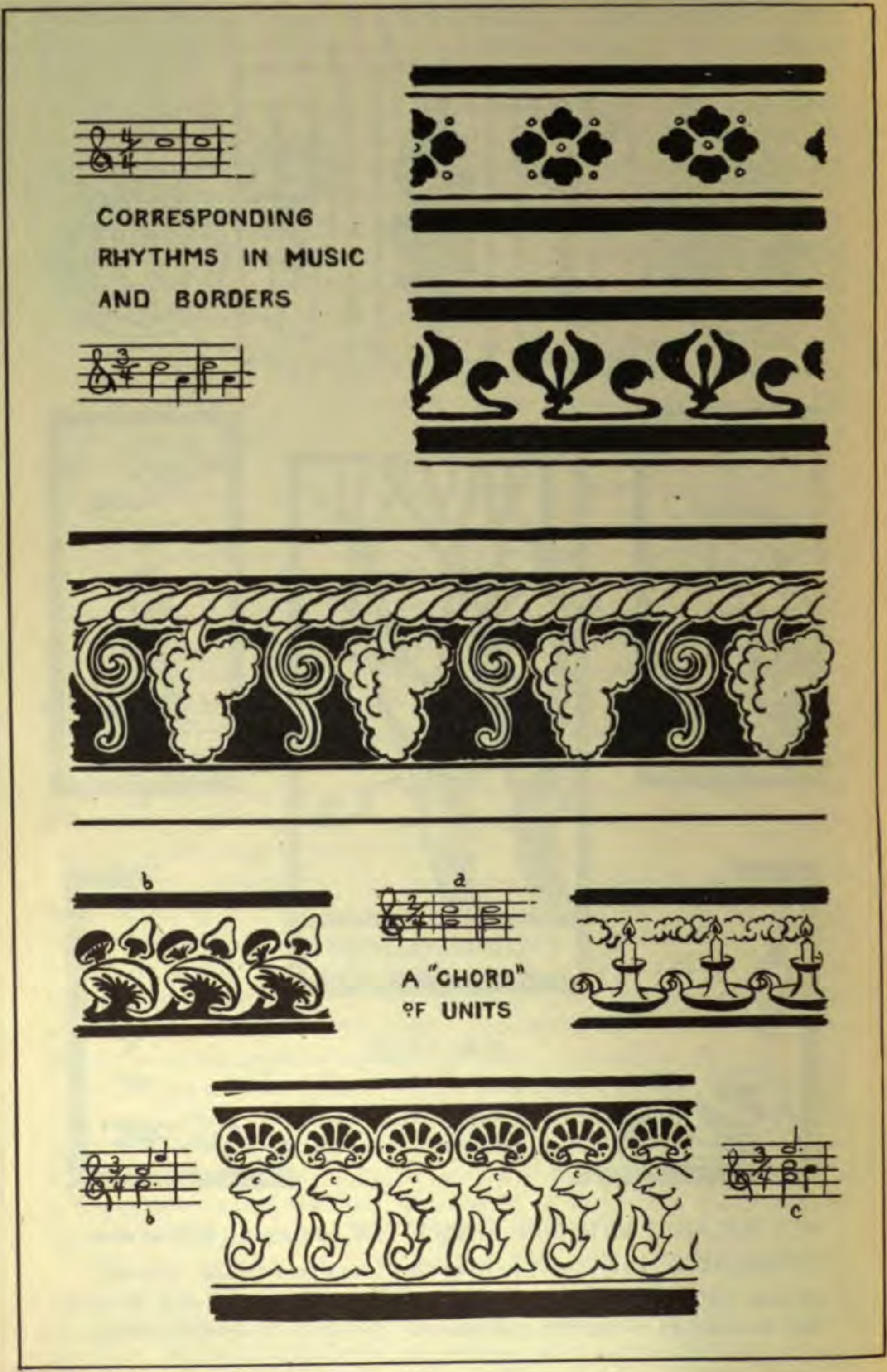
This law of repetition is so easy to teach. It is so universal. There is no design in the world without it. It is the primary law of growth, organization and all good order. It is visible in the succession of the days and nights, in the round of the seasons, in the tree-trunks of the forest and in the quick fall of footsteps. It is audible in the beat of music and the steady pound of hammers that build. Through it and only through it the idle forces of the universe mount, accumulate, and become effective. That is why we are comfortable and at home with a design displaying repetition. The human mind grasped this principle at the same time that it became accustomed to steady breathing, and the absence of it annoys with the same aversion to the unnatural as would the loss of the latter. Nor, I repeat, is it impossible for the youngest school-child to understand the wonderful innumerable applications of it in all his tangible world.

The *second great principle* to which I would draw the attention of the teacher is much more subtle and for the most part should be left to the upper grades. *It is balance.* About this evanescent quality,—lost with the width of a line, replaced by the halftone of a shadow, elusive to those



BALANCE AND HARMONY

Nº 1, BALANCE WITHOUT SYMMETRY IN NATURE, Nº 2 IN ART—HARMONY OF LINE, Nº 3 - RADIATING LINES IN A CIRCLE, CURVES GRADED TO A CIRCLE Nº 4; Nºs 5, 6, 7, 8, 9, WITH MAIN AXIS OF EACH UNIT SIMILAR IN DIRECTION TO GREATEST DIMENSION OF LIMITING SPACE.



CORRESPONDING RHYTHMS IN MUSIC AND BORDERS

A "CHORD" OF UNITS

who seek it scientifically, obedient to those who trust their sense of weight—there has been great argument, with much the same result as mentioned in the Persian Poem. Arthur Dow, seeing the fine sense of it shown by the Japanese, studied the matter deeply, and founded a whole system upon one of its branches, calling his discovery "Space Division." I have known devotees of space division who outdid their master, including, within its boundaries not only the root from which it sprung but the entire philosophy of the beautiful. Let us not talk space division to the children. Let us familiarize them with the elemental feeling of weight and balance. There is the same kind of discomfort in looking upon a topheavy or unbalanced design that there is in trying to keep upright on a narrow ledge. Let the children learn to recognize this and we shall have fewer of the contortionate fleur-de-lis designs which are now an offense to the eye in the grade work.

Everywhere save in our common household and commercial art we recognize this principle of balance. The massive mountains, unshaken through centuries, are to us a delight and a memory of peace, while the rocking stones and uneasy pinnacles of Dakota are mainly food for our curiosity. If you succeed in teaching the children that nothing which is not well balanced can be pretty, you have accomplished more for their general culture than if you made them familiar with endless designs for sofa pillows and bookracks, omitting to teach in each this law of good design.

"Six into four you can't!" chants the small arithmetician at the board, but the teacher during the next period has apparently forgotten this truth from the mouths of babes, for with undisturbed equanimity she allows the children to draw five-pointed stars in a square, or to occupy considerably more than a quarter of the allotted space with the long-suffering Arabic trifoliate corner design. Yet just by the same little brain that recites so confidently "six into four you can't," can the unsuitability of five into four be appreciated and the bad taste in making a corner design so large that it could not be repeated in the three other corners without overlapping. This same little child knows that there is unsuitability in allowing some of the children to sit while others stand at a recitation. If she is told that this is lack of *harmony* she will be able to see that harmony means merely that things placed in the same neighborhood shall be enough like each other to go well together.

I can hear someone well up in front saying, "What earthly help is all this to Johnny, who is making a decorated envelope in which to keep his dictated songs?" My friend, not the slightest help to Johnny—had I wished to help Johnny I should have taught him. This is to help you, whether you ever teach him to make another envelope or not. This is to give you to understand that in our human intelligence certain laws are distinctly recognized as productive of beauty, of good order, of sane distinctions; that these laws underlie design and music in their simplest and most concrete forms, and that therefore, design and music are to be studied by the child as instrumental in the development of his appreciation of these laws; that neither design nor music are worth the pains, paint, and patience spent upon them unless they develop a keener sense of *repetition, balance* and *harmony.*

Design in School

By Janet M. Dailey, Assistant Supervisor of Drawing, Brooklyn, N. Y.

WHAT do we mean by design? Why should we have it in our schools?

These are questions that confront us every day and that we must answer.

Dr. Ross, of Harvard University, says: "By Pure Design we mean that the elements should be so arranged that there is a unity of the whole; that spots in your measure and shape should be brought into Balance, Rhythm, and Harmony."

I am sure we all agree with him, for we have an innate love of order, and when we find anything where this feeling predominates we are satisfied. We find it in everything in nature. The seasons return at regular intervals; the sun and moon have their regular orbits; the waves of the ocean rise and fall, and we go on indefinitely to show order in the universe.

One of the objects of design is to achieve beauty, and this can only be done by understanding the principles that underlie it.

There must be thought in design. For what is design but an idea expressed in an orderly way? Pupils must be led to think for themselves. It is not enough to be interested. They must be made to work that they may gain facility in technique and to know how to apply these principles..

We must live with design all our lives. Why not have the best?

In order to have a child become familiar with good design, we must show as many fine examples as possible, also some that are not good, to develop discrimination. It is not necessary that a pupil should become a designer, but the power to discriminate, to know the good from the bad, will help him to spend his money judiciously, to surround himself with the beautiful as far as possible. Try to cultivate in your pupils the love of the beautiful and the fitness of all things.

From what has been said of the importance of design, it can readily be seen, that from every standpoint design should be made a study, and if it is a part of our lives, why not have it in school?

.Little children love to make borders. If told to look at towels, handkerchiefs, clothes, etc., at home, even the very little folks quickly form the habit of observing them and using the spots they found in their own borders.

Design should be begun in the lowest grade, not by teaching principles, but by observation. Children will soon learn to make an orderly arrangement of spots by placing them regularly on paper.

Put on the board a number of single spots of different shapes—let them combine two—first showing them what you mean by making a few borders for them to look at. Have them make original borders, for one idea from their little brains is worth more than a dozen copy lessons. Under a patient teacher a class will do really wonderful work with this plan. Do not make the borders only, but apply these to towels, doilies, etc. In the second and third years you can begin to make the children feel that there is something that helps to get their spots in the right place.

Rhythm can be taught by using three lines or sticks. Tell them to make a border that moves. That one line will lead to the next. To intensify this feeling have lines of different lengths. Show them that as the lines grow longer, they also go faster. The lines are trying to catch each other.

The feeling of Balance is easily obtained by using a straight line—placing it horizontally or vertically—then add one spot of their own on either side. Tell them that one spot balances the other so both will remain where they place them. To make them understand what we mean by an orderly arrangement let a child walk in front .of the class—when the steps are regular they give a graceful movement. The regular time made by the footsteps is pleasant to the ear, for music and design are analagous. Thus the regularity gives beauty and order. Show in every possible way that we can only have beauty when we have order.

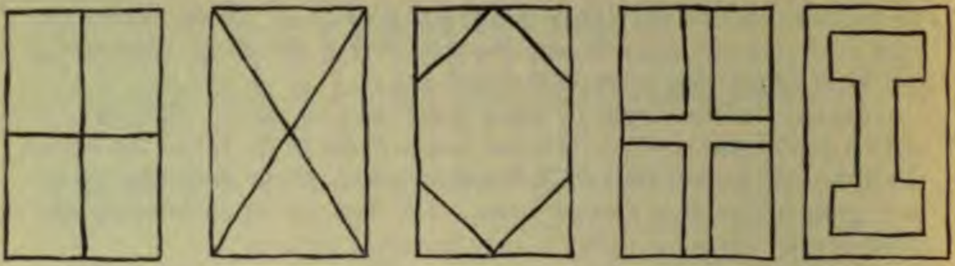
Have the children make designs of the things they are interested in—flowers, birds, insects, butterflies, animals—anything that has life.

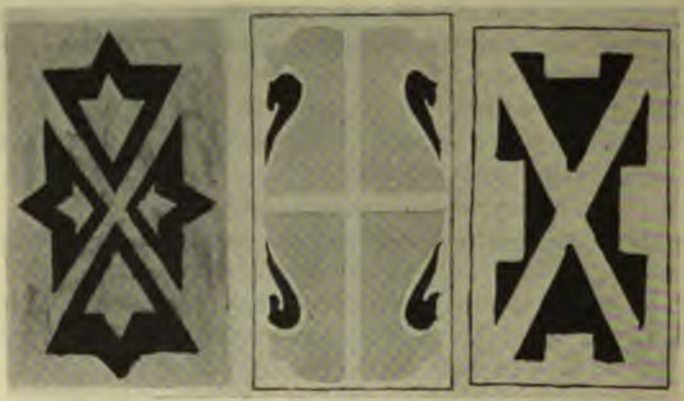
Many let them use their designs in a way that will not give them the feeling that it is a decoration, not a picture, and that the book cover, plate, rug, etc., is of the first importance and the decoration secondary.

In the fourth year the work in design becomes more difficult. In this grade use the terms Balance and Rhythm which they have had in the grade before. The children are old enough to understand these principles when taught in a very simple manner. Only teach balance on a straight line. Make a design on a vertical axis and on a horizontal one. Tell them they weigh the same as both sides are alike. Thus they have a balance unit. Make the spots in the unit increase in size, so as to show movement. They can readily see that the eye will move with the spots.

After they have had these simple rudiments, give them some very easy problem to work out—do not give them anything abstract—make them feel that what they make will be used if it is only good enough. For this reason, while you may give them a square, oblong or circle to work in, call it a box cover, tile or something useful, even when they are able to explain the principles. They cannot work without ideas. These must be furnished by putting on the board the simple designs. Show them how to start. Take an oblong, cut it in several different ways. Complete two or three to show them how. A very good way is to make one spot and let them finish the design in their own way. This will give variety. Lead them to feel that in order to have harmony these spots must fit into each other; that the first spot made will be the keynote to the design.

In the fifth year the principles, Balance, Rhythm and Harmony, should be taken up separately and the children led to reason them out in some simple way. Take balance first, as this appeals directly to them, for there are very few children that have not purchased groceries for their elders, so





DESIGN FOR BOX COVER.
P. S. No. 43—4th Year.

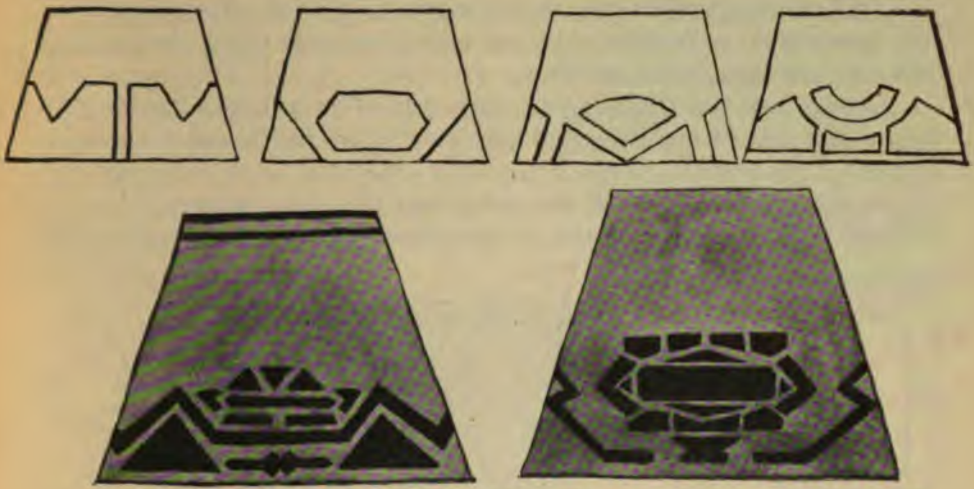
ask them how they know when they have a pound of cheese. After some questions you will elicit the answer, even weight, which is sufficient for these little folks to know. Have them make on the board simple designs on vertical and horizontal axes which they had before.

Then take a center. You can balance a blackboard eraser on a pencil and ask what will happen if you put a piece of chalk on one side — what must be done to keep it from falling. The children are intensely interested while you are giving them this demonstration: Draw on board a circle with dot in center, put one spot in circle and let the class tell you how to produce balance.

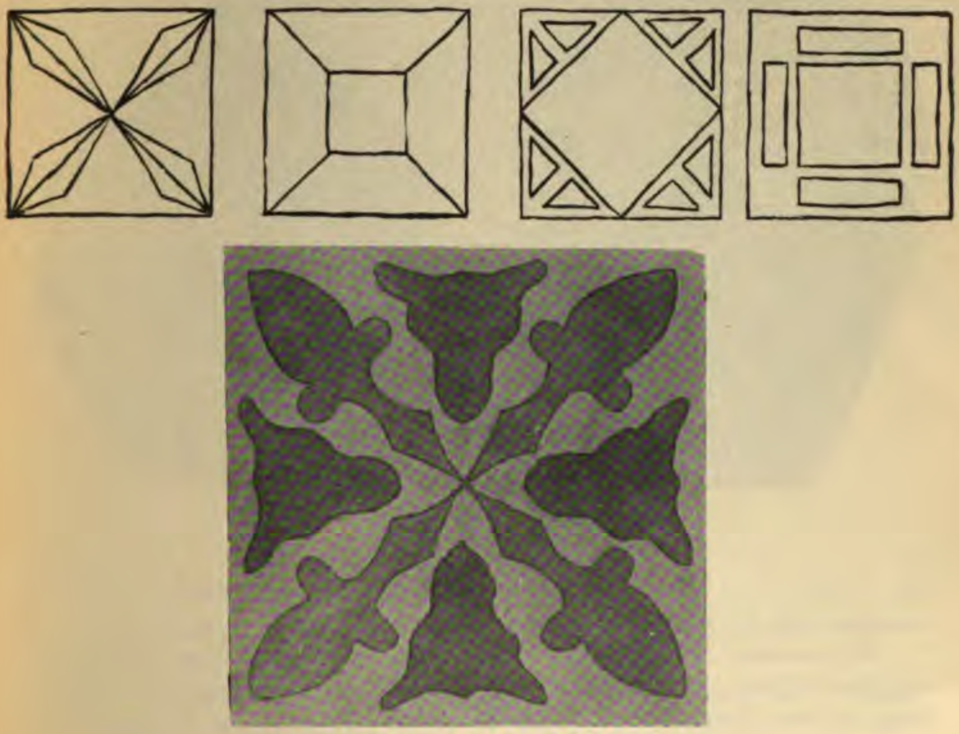
Next show them examples of good, simple balance—let them look for it in the decoration of the room; often the ceiling will help you out in this.

Take Rhythm next. Rhythm denotes movement, and a design that shows an increase in measure or tone will have much more movement than one of simple repetition.

As an illustration, use the pebble dropped in a pool of water. The first circle made is small, the next larger, also the distance between increases, the movement grows faster and faster until it spends itself. The children understand immediately because they have all seen this in nature and know the circles increase.



DESIGN FOR LAMP SHADE.
P. S. 36—5th Year.



DESIGN FOR TILE.
P. S. 43—5th Year.

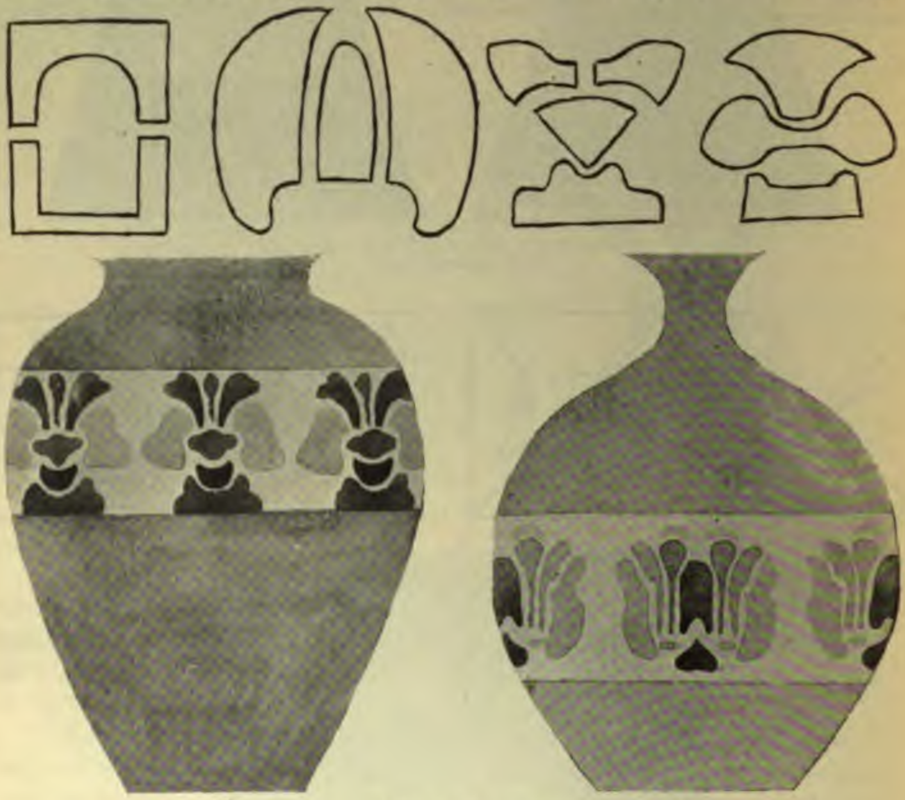
Harmony is the hardest to have them comprehend, for it is more subtle. Give them the simple definition that when two things are exactly alike there is perfect harmony.

Take two squares, same size, as an example.

Find out by questions how they resemble each other. They have same size, same shape; use colored chalk and make them same color. As they are just alike, we have perfect harmony.

Change size, but still have the same shape—we will have harmony of shape. Change size and shape, but have same color—we then have harmony of color.

In this grade you should also make clear the terms measure, which is the area of a spot; shape, which is the contour of a spot; and value light and dark. They must have this knowledge to comprehend harmony. Awaken their interest as before by their making designs for useful things.

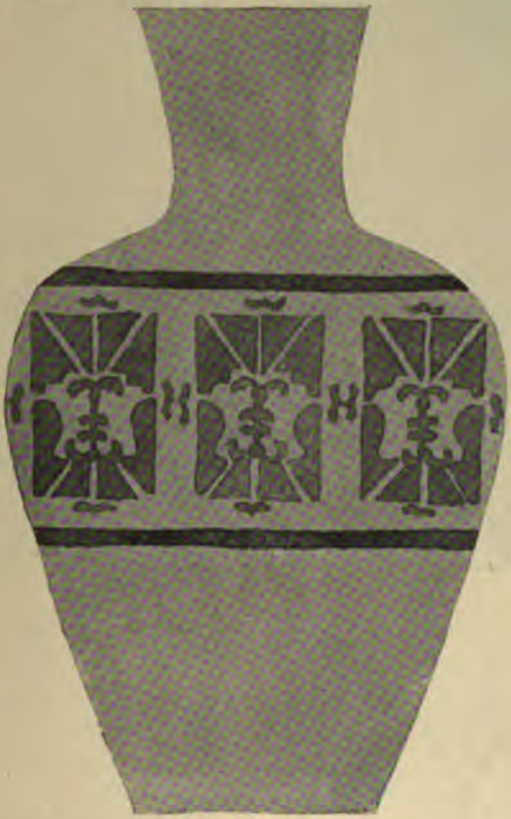


DESIGN FOR VASE.
P. S. 141—6th Year.

This season classes in this grade have worked out very successful designs for tiles and lamp shades by giving them the spaces and cutting them up into various forms, letting the children carry them out their own way.

Pupils in the sixth year are of an age to have balance explained still further to them. We should lead them to understand that they can have balance without having their designs just alike on both sides; that balance means weight; and that two spots of different size will balance on a center in inverse ratio to their size.

Illustrate this by the example of the see-saw—first with one child at each end, then one on one end and two on the other. Let them tell you how to adjust the see-saw. This will make it clear to them. This balance can be used very often in book covers and for programs. The borders on their vase forms were obtained by giving different shaped spaces and letting the children cut them up to make spots that would fit into each other, bearing in mind the principles and by leading them to feel that they must have variety in size and shape. They can cut to resemble geometric figures, flowers or anything in nature.



DESIGN FOR VASE.
P. S. 36—6th Year.

In the seventh and eighth years pupils must be taught that value plays an important part in design.

To become good designers they must consider not only the principles of design but the bearing that value has upon these principles. They must study the neutral scale and then the colors that correspond with the different values.

These scales can be found worked out in the "Books on Art Education," published by Prang & Co.

If they use white and black on middle value they are both the same distance in value from middle, and thus the same measure will balance at equal distances. When they use colors also start with a background of middle value, then yellow, which is high light, will balance; violet, which is low dark; or green, which is low light, will balance; blue, which is high dark.

DESIGN FOR BOOK RACK.
P. S. 36—7th Year.

COMPOSITIONS

P. S. 141—8th Year.

P. S. 141—8th Year.

They must be taught that colors are brought into greater harmony when they are neutralized, for they will have more in common. A design completed in any one of the harmonies will be more restful and pleasing if the colors are dulled and one, at least, brought down to a low tone.

ACTION DRAWING.

By D. R. Augsburg, Oakland, Cal.

THERE are four great interests in drawing which appeal to children. They are:

The Life or Action interest, which relates to the movements of objects.

The Color interest, which relates to the color of objects.

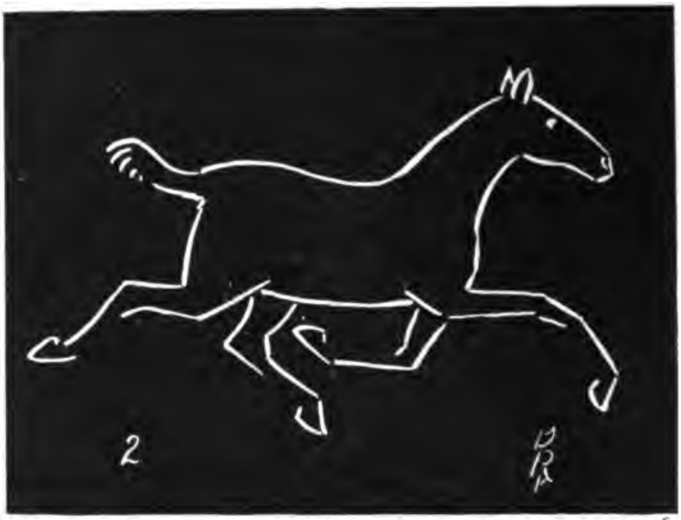
The Use interest, which relates to the use made of objects. And

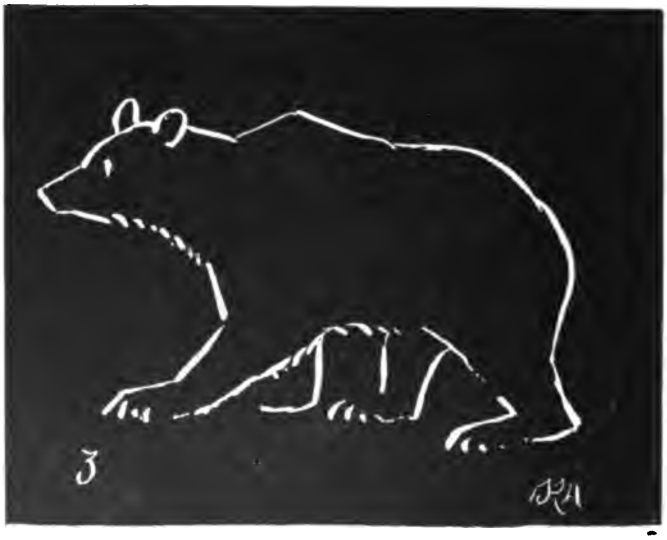
The Form interest, which relates to the shape of objects.

Of these the first three are of more interest to children than the form interest. And of all the interests the life or action interest is the keenest. These are dear to every child's heart, and to express this action which suggests life, is his greatest delight. How is this to be done? Not by direct observation, that is, by looking at the action as represented in some live animal. No, no, there is no movement of an animal so slow that a child can see and grasp it to the extent that he can transfer it to paper. Even skilled draughtsmen find difficulty in doing this. Few are quick enough to catch the action from the living model. It is safe to say that in an action sketch or drawing by a rapid draughtsman fully nine-tenths of the drawing represents previous knowledge and no more than one-tenth is gathered from the figure itself.

The drawings of the mice (Figs. 4-8) in this article were made directly from a live specimen under as favorable conditions as one could wish. He was a lively little fellow and continually on the move, allowing but a moment for each pose. For example, all that could be gotten from the mouse in the drawing of Fig. 5 were the three lines of Fig. 4. Only the slightest suggestion could be gleaned for the full action figures like running, Figs. 9 and 10. Out of forty-five sketches made from the mouse those represented by Figs. 6, 7 and 8 were the most complete, and even these have much that was supplied from general knowledge.

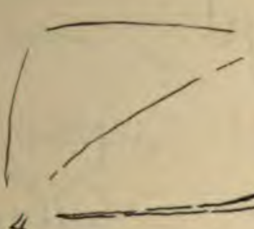
Pupils can get very little from the movements of living animals to reproduce until they have learned the general principle of action from drawings and pictures made by others. As a proof of this it will be found that previous to the time of instantaneous photography many actions which are now common property among draughtsmen were unknown until revealed by the camera.





I am convinced that our knowledge of action is more historical than observational. That what we know of action is the accumulated knowledge handed down to us from the past rather than the result of our own study and observation. As value is independent of color so is action quite independent of the animal or object that represents the action.

For example, take the action of standing, walking and running, Figs. 9, 10 and 13. Walking and running are different degrees of the same action. In the position of standing the *vertical* and *horizontal* lines predominate and in the walking and running positions the *oblique* lines predominate. The vertical line is the line of *stillness* and the horizontal line is the line of *repose;* therefore any animal, object or thing is stable, still and at rest in proportion as the vertical and horizontal lines predominate. The oblique line is the line of *action;* therefore action or movement is expressed in proportion as the oblique element predominates. In Fig. 12 the action of walking is suggested by changing the vertical legs and neck to the oblique, and the action of running to the same, only greater in degree. This is a big question and is out of place in an article of this kind. It is given here merely to suggest that action is quite apart from the animal that expresses the action.



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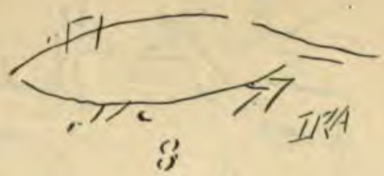

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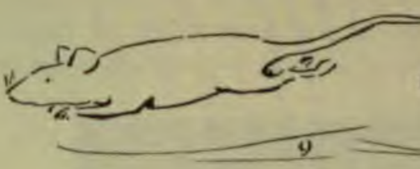

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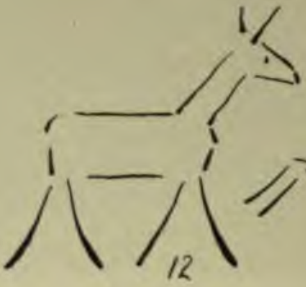

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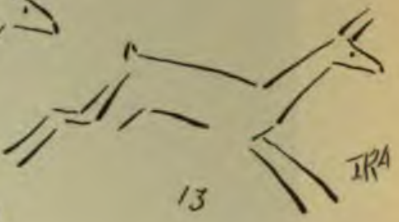

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15 STANDING

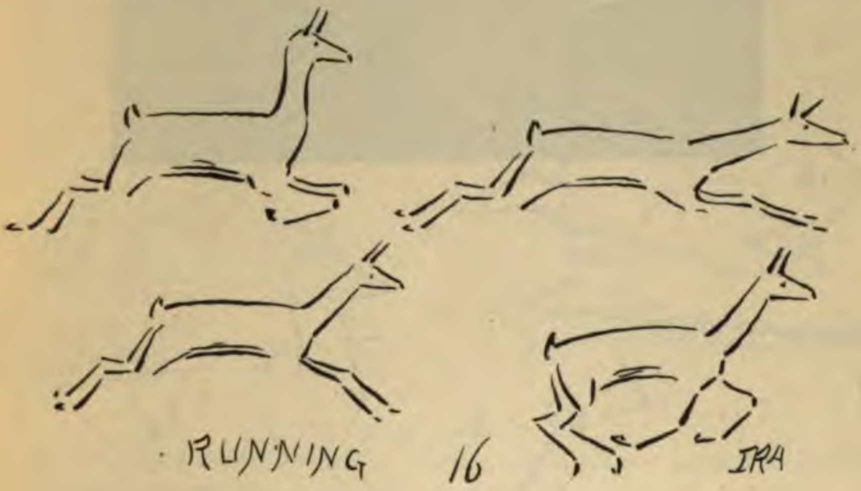
The order of learning action drawing should in general be about as follows:

1. *Thru imitation or the copy.*
2. *Thru the memory and imagination.*
3. *Thru perception or direct observation.*

The above is not intended to represent three periods but rather three stages. All may be taught together or separately, at the convenience of the teacher.

Action may be subdivided into five great groups:

The reclining group.



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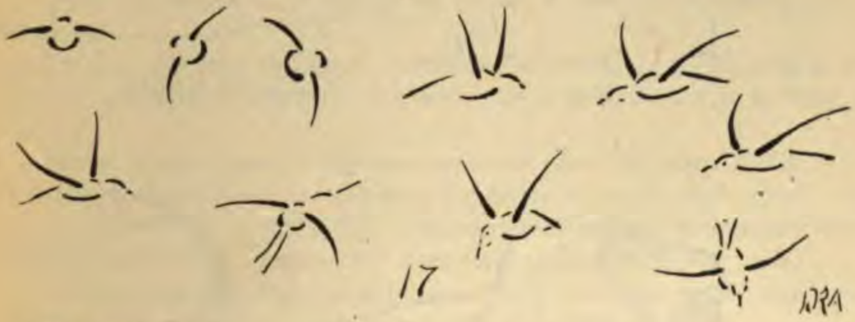
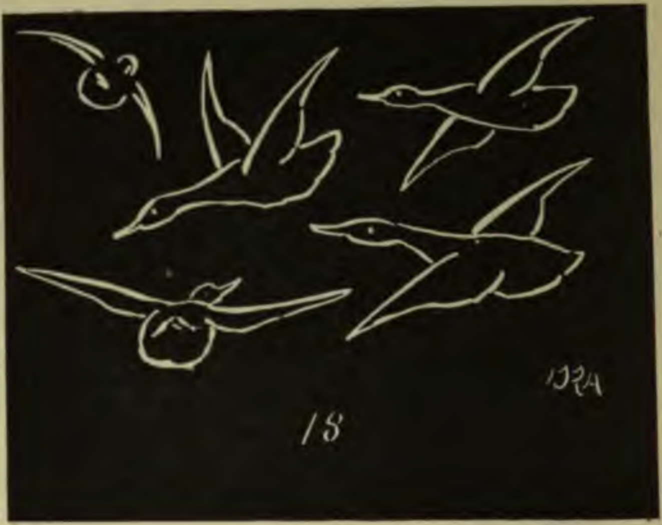


17

The sitting group.
The standing group.
The walking group, and
The running group.

These five groups of action merge into one another imperceptibly. Many movements are common to all the groups.

In the first three groups the vertical and horizontal elements should predominate, and in the last two groups the oblique elements. In Fig. 14 these elements are very evident and the result is stillness. But in Group 15,



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19

21

while the deer are all standing still, wherever the line is oblique there is a certain action noticeable.

To teach the action of standing, show the pupils which element indicates stillness, then apply it to all sorts of objects, as in Group 14.

For example, draw a boy standing, a dog, a horse, a deer, a crane, a cat, etc., until the action is well understood in a general way.

Take up the action of running. Let the pupils copy a figure similar to Fig. 13, then like those in Group 16, then extend to other animals such as the sheep, dog, horse, etc. The action of running is very much alike in most animals. The principle is the same. It is not necessary to learn the action of each animal separately. If the action of one animal is learned it becomes the basis of action of all animals.

20

22

Study the action of flying, as in Group 17 and the following, as in Group 18.

To give the separate steps of teaching this subject to children is too long for one general article of this sort. In a general way it is about as follows:

First. Learn how to express the action thru the copy. That is, to learn the mechanical process and how the action is represented; then

Second. Use the action thus learned in memory and imaginative work until the action can be represented with some degree of facility; and,

Third. Use direct observation to verify, correct and perfect the action until it can be represented with both *accuracy* and facility.

LIFE DRAWING.

By James Hall, Ethical Culture Schools, New York City.

THE question is sometimes asked "Is not life drawing too difficult a subject to attempt to teach in the elementary schools?" Another question that often follows is "Suppose we can teach it with some slight measure of success, is it worth the effort that it requires?" The answer to these questions depends largely upon the kind of results which the teacher desires. If the products of the art school or the works of the professional illustrators are taken as the standards of excellence, and attempts are made to teach figure drawing by art school methods, the results will hardly justify the effort. If, however, the prime aim is to make animal or figure sketches that express life, that look alive, even if inaccurate, then the instruction must be of the most vital kind, and the pupil who learns to make a live drawing of a bird, rabbit or other animal will put a freer spirit into his plant drawings and into his designs. The drawing of bowls, boxes and other things (that come into the class called "objects" by the art teacher) teaches proportion and the phenomena of perspective. These drawings when done may be correct, and yet without a breath of art. A drawing of a flower must, to be a good drawing, possess a feeling of movement and hence its making involves some of the same considerations that enter into animal or figure drawing. Both plant and animal drawing are of infinitely more value in developing the artistic feeling and expression of children than the drawing of inanimate objects, although these latter are obviously better subjects for teaching accurate representation.

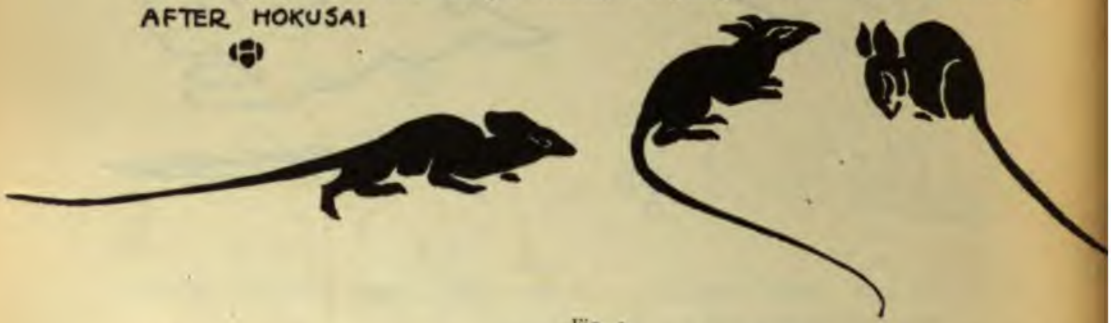


Fig. 1.

Granted then that life-drawing is possible and is valuable if rightly taught, let us consider some things that should influence our teaching.

Japanese art gives us better than any other, examples of live drawing done with few lines and yet wholly adequate. In Figs. 1 and 2 are some mice and birds after Hokusai, which illustrate the synthetic character of Japanese art. The mice are well characterized silhouettes. The birds, made with perhaps a dozen lines each, seem instinct with life.

Of course Hokusai was a master and the powerful simplicity of his drawing is the result of years of study. His aim, however, is the aim of all Japanese art and should be our aim in life drawing. To decide upon a few lines that express the character of the particular animal to be drawn is the first step. To draw these lines with a quick stroke that has in it elasticity and vitality is the second. Hokusai drew from memory and so do all the

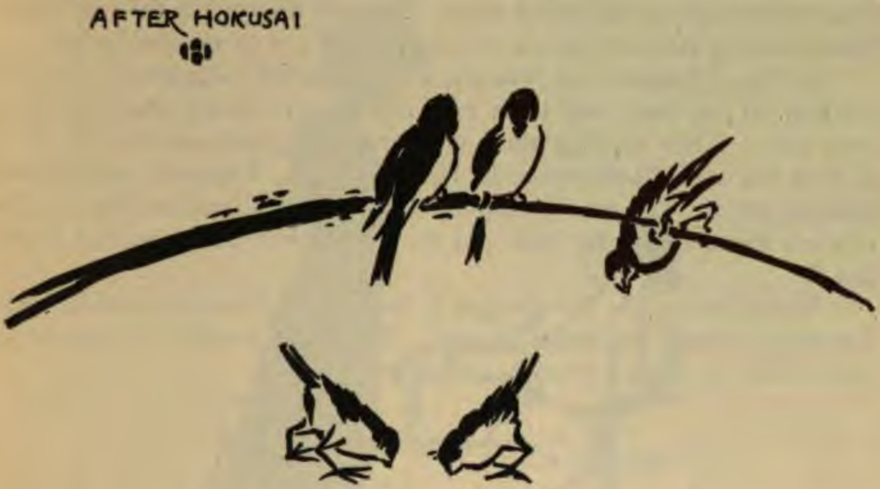


Fig. 2.

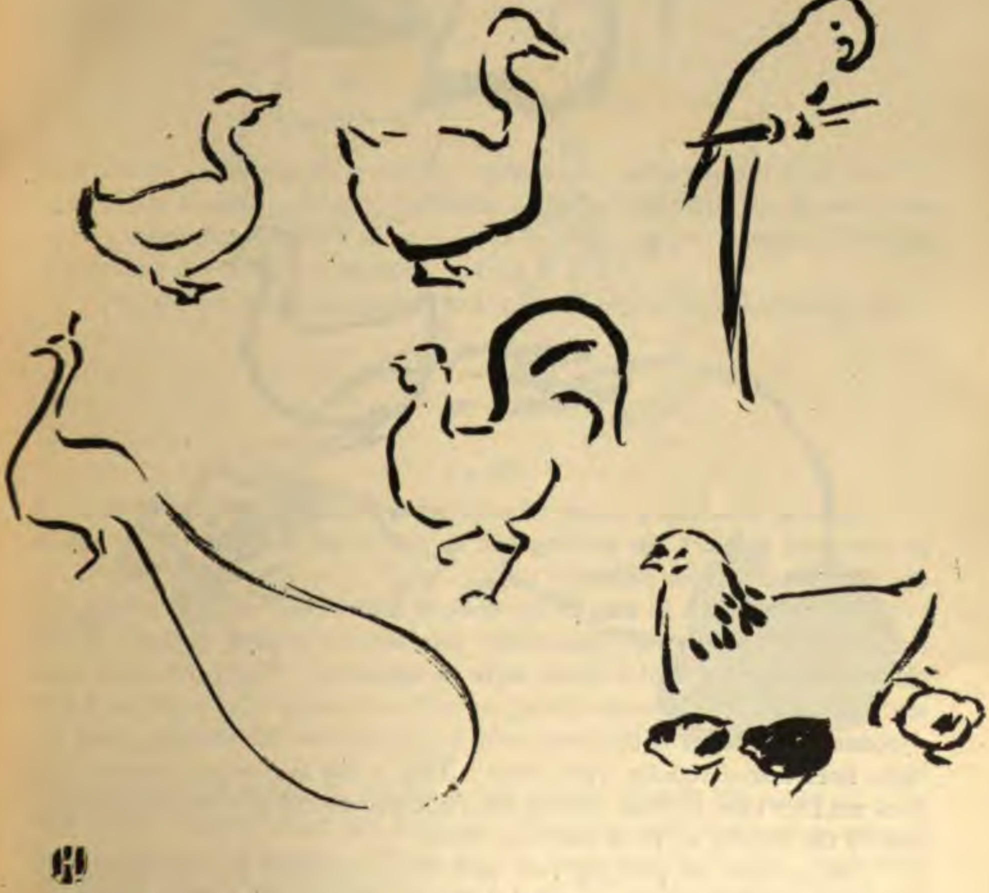


Fig. 3.

Japanese artists. Indeed the greatest artists of all times have been able to draw without the model before them. Memory drawing is the only means that will bring about the power to reduce a form to its simplest terms.

In Fig. 3 a number of domestic birds are briefly suggested. The aim has been to put down only those lines that were markedly characteristic of each bird. While drawing them one must think somewhat in this wise: A duck has a saddle-shaped body, like A, Fig. 4. The neck, with a crook goes on like B. The head is elliptical C. The bill is long and flat D. The legs are short, appear far back and the webbed feet may be shown in outline E.

In the rooster the key thought is that all his lines are pompous ones. The head is back; the breast forward. The tail is proudly curved and the raised foot expresses a strut.

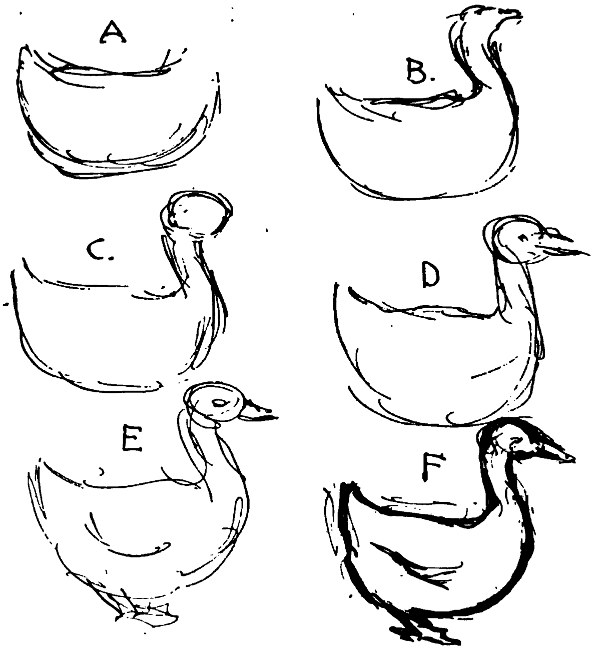


Fig. 4.

Drawing is simply a means of expressing thought. The thoughts must be clear and succinct, for nothing will appear in the drawing that is not in the mind of him who makes it.

If such a sketch as that of the duck is made freely in light pencil outline, the greatest possible opportunity is given for making changes in the shape of each part until it looks right in character. When the right lines are found they may be made strong, as in F, or a piece of transparent paper (Japanese rice paper is the best) may be placed over the drawing, and the right lines traced rapidly with brush. This is the best plan, for the pupil does not then have to think of his proportion and he can give his whole attention to the making of brisk and vital lines.

This method of working first with free, tentative, quickly but lightly drawn pencil lines, is recommended for all life-drawing. No erasure is desirable. The wrong line helps to the right one. By thoughtfully adding

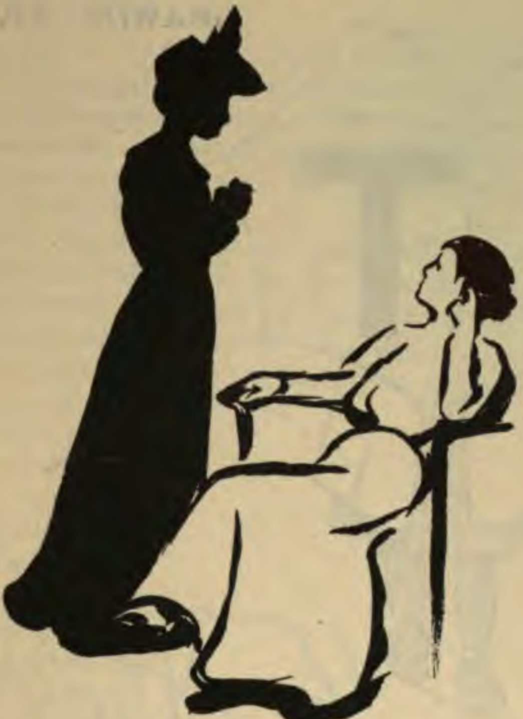


Fig. 5.

line to line we finally arrive at the right ones. When found then trace in bold brush outline with spots of black added to represent the darker parts or to give variety of effect so as to make an object appear detached from the one behind it. This is illustrated in Figs. 5 and 6.

The aim of this article is not to suggest a course in life-drawing, not to indicate exact methods of teaching, but rather to state the point of view that must underlie good life-drawing. Drawing with the animal present is sometimes good practice. There may be some time devoted to work from the posed figure. But the life element can appear in the drawings only when pupils begin to realize that the aim is not the imitation of the subject line for line, but the finding of the few lines that express character and action, and recording these lines with vivacious touch.

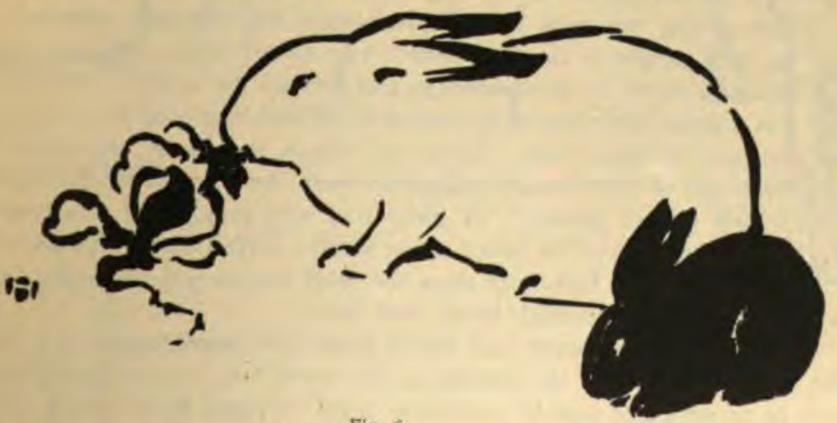


Fig. 6.

DRAWING FROM LIFE.

By Edna M. Nicholl, Asst.
Supervisor of Drawing,
Brooklyn, N. Y.

THERE seems to be no division in the Course for Drawing which causes so much anxiety and dissatisfaction as that on drawing from the posed human figure.

Art to be real and worth while must be true. Everyone admits this fact and yet so often we are contented with something short of the true, while the true itself lies only a little way ahead.

We are delighted to find a lesson calling for a design, a sketch from still-life or a landscape composition, because here we feel perfectly at home,—but a pose lesson, ah! here is the rub, and here we feel our powers being paralyzed and over taxed and are not surprised when the class hands in a set of papers peculiar and wonderful in its representation of anatomy and life.

From a long way back in the nursery days we still have memories of how we were taught to draw "a man": two circles joined, one on top of the other with sticks for arms and legs and dots for the features of the face. This was a great achievement and satisfied us until long after our drawings had improved in other lines. It was so simple, so exactly representative that no thought of improvement suggested itself; were not all the parts there and in their proper places? "A girl," too, was simple; the substitution of a box, in the place of the lower circle, made a perfect skirt and possibly a waved line across the bottom to show the folds was an improvement of our own which filled our childish heads with pride.

A teacher in the fourth year would show little leniency toward a child who still stumbled over the spelling of the word "cat," and yet will sometimes be contented to pass by a drawing from the posed figure which shows little advance from the prescribed method of the nursery.

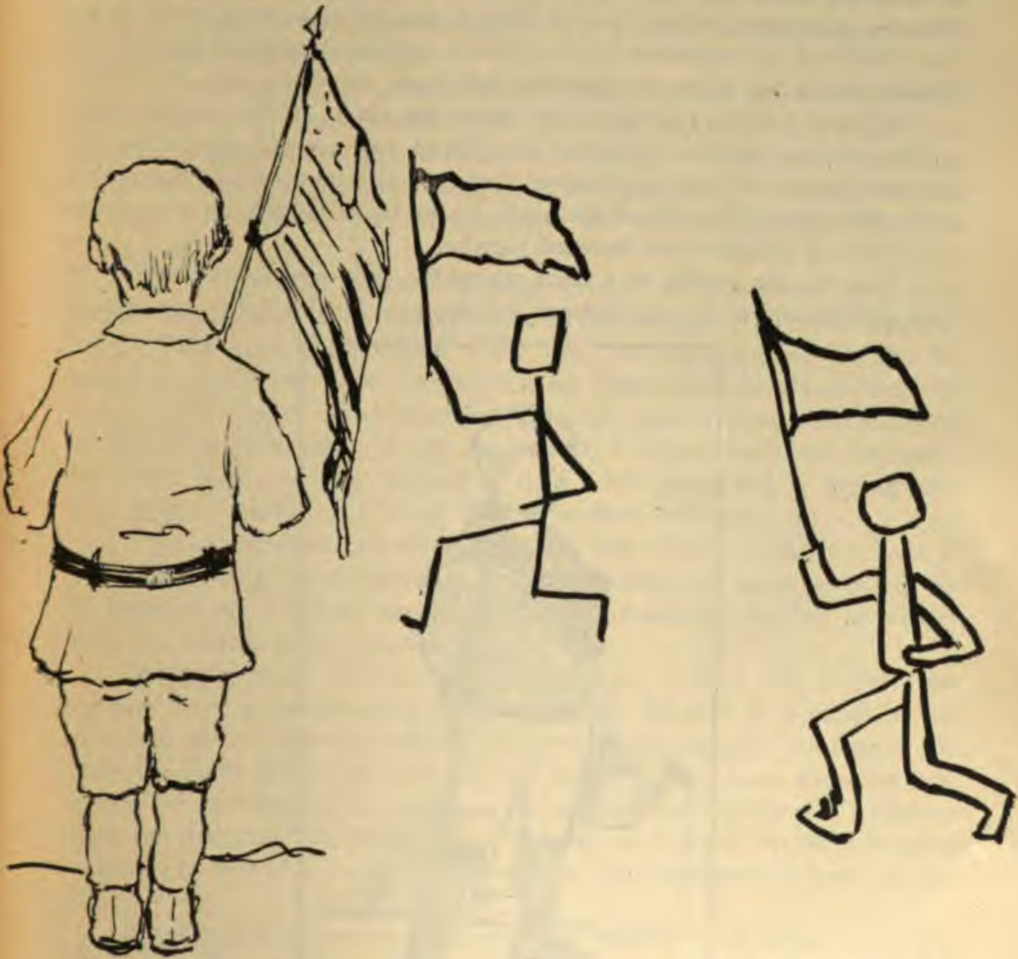
"It is so hard," "The child has no talent for drawing," and "Why, I couldn't do it myself," are some of the things which are constantly being said in defense of the pitiful attempts which the children sometimes make for us.

To be sure it is hard, very hard, as is any subject until we begin to know how to grasp it. The human figure is acknowledged as containing the most beautiful lines in the world and we cannot afford to let the children pass them by as indifferently beautiful or beyond their power to grasp, nor to have them fail to find the life and power which these lines represent.

Action we must have! And action can come only through lines; therefore let us learn to see lines.

We may draw vases, flowers and clouds and find lines of exquisite beauty and strength, but we cannot stop here when there are living, moving things of greater worth. We want life and action in our art.

A child should not have "theories" discussed in this connection. He should simply be taught to *see* and to *understand*, and if this be done well there is nothing more that he will need.



First, to see, really see, we must be interested. We ourselves would not be interested in a figure standing before us with hands hanging straight at the sides, toes turned out and head erect; it would mean nothing more to us than a dummy in a show window, should we, however, stand a stick upright in one hand, resting in the hollow of the shoulder, our imagination would instantly picture a soldier at "attention," and here would be the clue to our *seeing*, and so to our power to portray life, and this it is, first of all, which we must portray if we are going to have the true art for which we strive.

The doubling of the sticks in the nursery stage is an advance, in that it shows two sides of the arms and legs, but there is no real, vital advance until the child feels the action which the body represents; and for this reason a simple unguided illustrative drawing of the primary years, if it shows action even in the "stick" method, is truer to life than an elaborate advanced drawing where there is no life and the figure is in the other sense truly a "stick."

Secondly, to understand. Had the children in learning lines as many facts to remember as they have in history, the art of learning them would be considered too extensive for the schools and the drawing would lose its present place, but when we consider that there are really only three lines in the world we find the task quite within the reach of the simplest child. A line may be vertical, horizontal or oblique, and nothing else. The distinction between straight and curved lines may also be truthfully done away with, for the simplification of the work, by the knowledge that a curved line is a chain of straight lines fastened together.

Now we are getting to a point where the child may understand on its own account and work in an independent manner; for if a line is one of three

kinds, after the three lines have been learned it will be easy to reject the two and choose the third, and where is the person, be he young or old, with training or without, who cannot draw a vertical, horizontal or oblique line, if it be not extended too far.

There are many and diverse ways of teaching drawing from the posed figure, but, after all, we are all working for just one thing—namely, life or action; and this will all come from line.

Who is not more interested in the alert Indian in the front of a cigar store than in a clothes model in a dry-goods window, wonderfully dressed but stony as a rock? Why even a scarecrow in a sunny corn field appeals to us with its waving arms and watchful attitude, although its head be gone.

Life and motion are what we want and need, and these the children must be taught to recognize, though it take a lesson in gymnastics before each figure lesson in drawing.

The story is told of a little hunched-back boy who always introduced the thought of a hump into his figure drawings regardless of the fact that his models were as straight as an arrow. It was not a spiteful proceeding but simply a portrayal of his feelings. That hump on his own back was his thought in connection with all backs and was never altogether lacking in his pictures.

Can we not take this a little suggestively? Many classes have been helped over hard places by an application of this thought in a slightly changed form. Suppose the proportions of the hips, the strong leg muscle, and the ankles are bothering some; let the class lay down their pencils and actually feel of and measure the comparative distances around these different parts of their own bodies and you will see instantly a look of understanding come into their faces and they will set at their work again with a feeling that they have a few statistics which they understand and can apply.

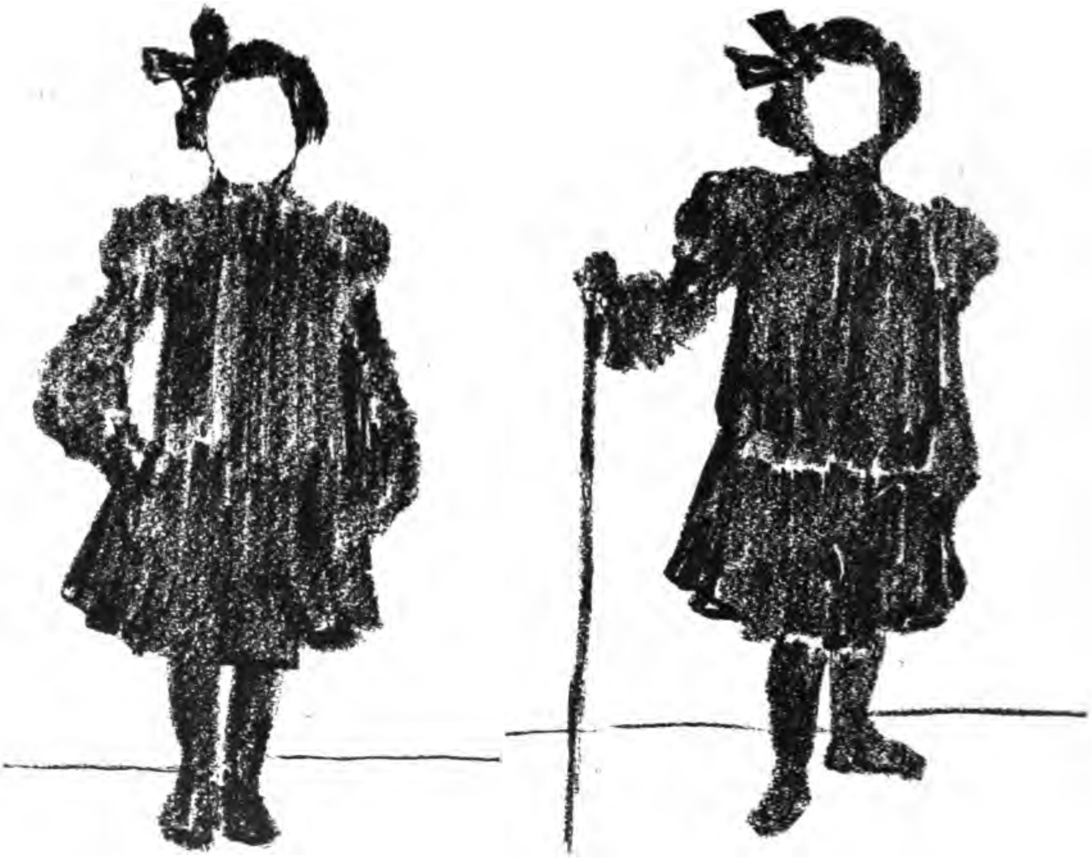
It is the almost preconceived "nursery" idea which the children have of the pose drawing which causes most of the trouble and must be broken up by the simple method of naming our lines and actually dealing personally with the subject to be pictured.

There are many children, and grown people, too, who know that there are two lines, an outside and an inside line, to the arm as it hangs at the side, and cannot remember that if the arm is close against the side of the body the inner line of the arm and the body can be drawn with one line, instead of drawing one for each and so instantly making the arm projected from the side, and this difficulty can be easily overcome if the child is asked to hunt (as he will in vain) for a glimpse of light between the body and the arm.

A prescribed method of teaching figure drawing is of course out of the question. Circumstances and conditions will always alter cases and each teacher knows best what method she can use to greatest advantage, but so the figure *lives* it matters little how it came to live, so it has been done by the thought and honest application of the child.

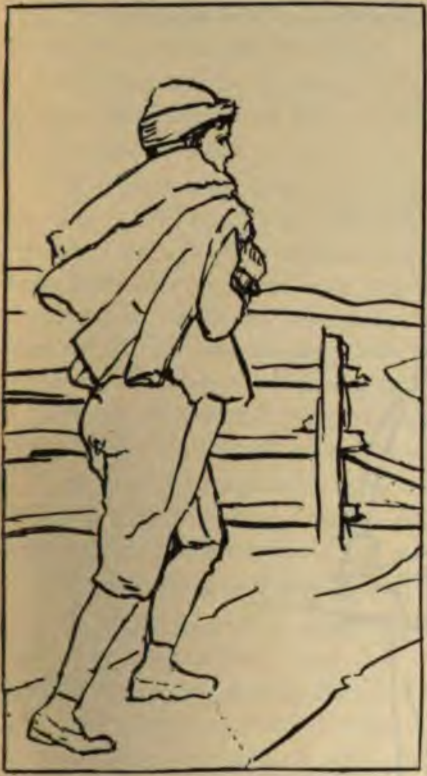
When the child first enters school he can sometimes do little more than hold his pencil, yet give him the opportunity and he will give you "a man." Our next step is then to give his ability a channel in which to flow. Let us not guide him too much, but read to him or tell him a story; perhaps "Jack Horner" will be your theme. He will be delighted to act it out in pantomime and will sit in the corner with feet extended and little shoes pointing upward and pull out his imaginary plum with great glee. Now he knows how Jack sat and after a vivid description from us will even clothe him in the appropriate Jack Horner style of dress.

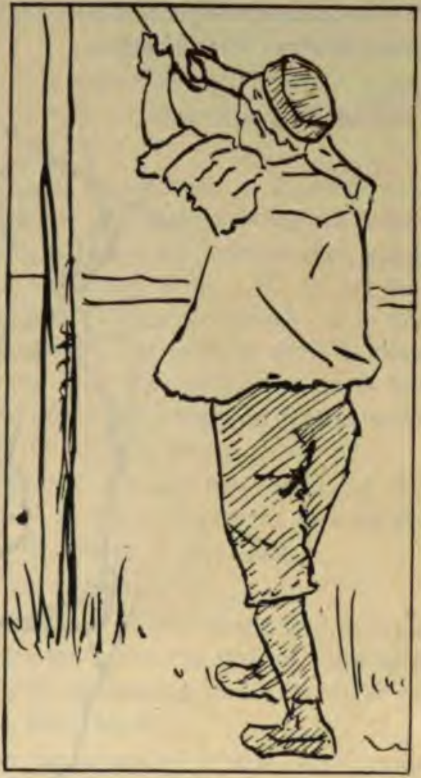
We sometimes say that little children see too much, but in this case that will be impossible. If they wish to draw by the "stick" method, which is simply using one or two straight lines for an arm or leg and a circle for a head, etc., let him do so,—he is now giving us life.



Many second year classes have had their greatest success in pose drawing by massing in the figure without an outline. This is the next step to stick work and calls the child's attention to the *thickness* of the body and an observation of line with an even greater exactness than by the use of a set outline. The effect when finished is very pleasing, if the stroke of the pencil has been kept in one direction, and appears as a shadow thrown on the wall where there is no light for face or dress. This is for form.

As we come to the third year we begin to meet with our greatest difficulties. The child in this grade often begins to lose its spontaneity in imaginary drawing and has not gone far enough in observation to recognize and place the lines under their proper names, and if we do not know a fact or a line definitely it is luck or great talent which alone can lead us to its perfect use.





Here decided motion alone can save us. Figures must be posed in attitudes of extreme action. A little added costume, such as an umbrella or hat will mean much to the child and will prove an impetus to good work.

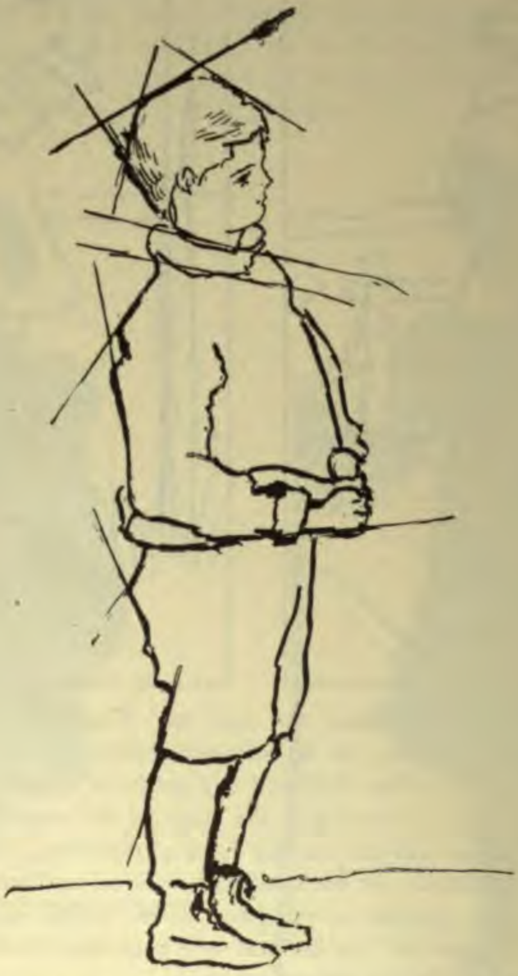
In a general way we must give the story of the picture and then with a pointer or rule point out the leading lines of direction. Neither of these things must we fail to do, for we must have interest and we must teach the children as early as possible to recognize points which will help them in higher grades to "block in"—a method which in this grade is often more confusing than helpful when insisted upon.

When the work is particularly successful a bit of crayon, such as a touch of red to a cap or a ribbon, gives the picture great added value to the child, and, if there is but one color used, cannot possibly detract from the whole effect.

Beginning with the fourth year and continuing through the eighth, we find the pupils able to grasp the idea that each line has its name and direction and use.

The pupils are also able to do much in suggesting poses, costumes and even positions in the room best suited, but good light, etc., for the posed figure. There are many cases in which children are asked to sketch from a figure placed directly between them and the bright light of the window, and find it impossible to see anything but the outline, besides having to stand the strain on the eyes.

Work in these years should commence with a general blocking-in (light lines) to show lines of action.



The pupils should then be shown how to use their pencils for measuring proportions and eventually for direction; let the standard of directions be vertical and horizontal and the pencil is never to vary from one or the other of these,—if a line coincides with the pencil it must be one of these directions, if not it is oblique and they can then say to themselves whether it slants to the left or right, up or down and by so naming it give it a definiteness which they would otherwise lack. All lines can be named by a pupil and should be as he works, in order to avoid the wild attempts which we see being made by pupils who say, for instance: "O, that arm is held straight toward me and I can't draw it," and down goes something,—anything which even the child himself cannot explain; while if the line had been measured and named the problem would have been dissolved into a simple choosing between three names, vertical, horizontal or oblique.

When the figure is sketched as well as the child can do it, a few minutes should be given to the finishing.

Shading may be taken up in as elaborate a form as desired in the upper grades, but through all there should be at least an intensifying of the lines on the shadow sides.

We have been impressed with the lack of wrinkles in a pair of new shoes or gloves and have watched these appear with interest when the object has been worn a short time, and gradually assumes the individuality which belonged to former articles of this kind worn before by us. We do not feel that they are really our own until they show a "little expression." It is this sign of life and expression which we must have the children show in their sketches, and therefore let us by all means show the wrinkles; it takes but a minute to do this and wonderful signs of activity will begin to appear under these single lines which show creases in the model's dress.

A simple background often helps to add interest besides giving the figure a suitable setting, and no time spent in the arrangement of a simple and appropriate costume for the model will ever be counted lost.

To sum the whole matter up takes but a few words.

We must as soon as possible get the children to understand that to draw well they must see well, and that they are not given the task of forming a human figure, but simply that of following, recognizing and drawing lines, and their choice of these lies but among three kinds.

We must not despair either because we cannot do it well ourselves or because we do not find great talent in the children; they are in each lesson learning to see things a little better—although some seem woefully blind—and when they have learned to draw the human figure with even a small degree of accuracy they have accomplished something which will help them in many lines of work, for they are beginning to observe with an independence of their own.

Just a plea, in closing, for those lower and middle grades which are sometimes so harshly criticized where figure drawing is attempted:

We must not expect perfect work until the children have had a long and hard struggle. They do not learn all of arithmetic at the end of the second or third years, neither do they cover the whole subject of pose drawing, and those who enter a class-room below the fourth year and expect a perfectly drawn figure (although of a small size to fit the grade) have forgotten that there are many heights to which only years can bring us, and that drawing from life is learned by the same slow degrees as arithmetic or spelling.

NATURE DRAWING IN THE PRIMARY GRADES.

By KATE CAMERON SIMMONS, Instructor of Draw'g, High School, B'klyn.

"THE aim of nature study, particularly in the lower grades, is to cultivate a sympathetic acquaintance with nature and to develop the power of observation."

To this end, that of sympathetic observation, drawing is one of the greatest aids. The child has to have definite conceptions in order to represent an idea by drawing, and the success or failure of the result is so patent to the child himself that he is encouraged to more careful observation.

A story which is told of a pupil of Audubon illustrates this. He had been studying a certain fish for some time and becoming tired of the continued work, asked if he might not begin on something else, assuring his instructor that he knew all there was to know about the fish. Audubon then told him to draw it from memory and the student immediately found that he had still much to learn and that his conception was very vague.

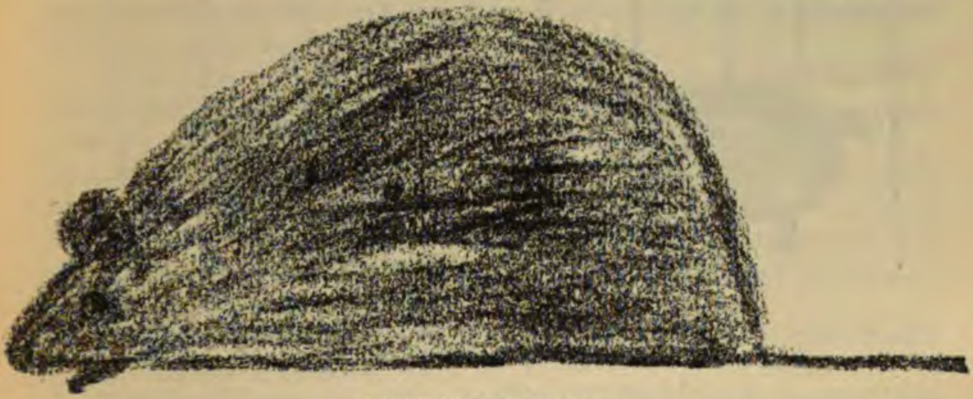
There is nothing which will so clinch an impression as to represent it by drawing and, therefore, drawing should play a prominent part in the study of nature. This is generally accepted and the syllabus for nature study says: "In every lesson pupils should be required to draw the object they are observing." Here also we have an opportunity for correlation in which we are all such firm believers. How is it possible to draw a flower without learning something of its structure, and can one study that same flower and not take advantage of the aid to closer observation which will be given by drawing?

Of all the material which is available for drawing in the public schools, surely that for nature work is most interesting, most fascinating, having the charm of real and living things. This quality appeals so strongly to children that their interest is immediately alive and so a large part of the work is already accomplished.

In the syllabus for nature study there is much leeway given as to the particular topic which is to be studied in each grade. As some animals and birds are so much simpler in form than others, this freedom of choice is more appreciated by the teacher who wishes to correlate drawing and nature study than by one who will make drawing a very unimportant part of the lesson. This has to be considered in the lower grades especially, as there the children can draw more successfully large and simple masses, while intricate detail is quite beyond their powers.

All the animals and birds selected for study in the first year are simple enough in form to give good results and have the added advantage of being very different in general character. The animals in the second year are all more difficult, as there we have to contend with the problem of drawing legs. This is escaped in the cat, mouse and rabbit of the first year, as they are commonly seen crouching. But this, alas! is not true of cows, horses, deer, etc. The dog which comes in this year is an animal appealing strongly to the child and one in which the characteristics are strongly marked, so that drawings of it are more apt to be successful. In the birds, however, we have a delightful variety, and most interesting work may be done with the bluebird, scarlet-tanager, robin, swallow, goldfinch and owl. The opportunity of using color should not be neglected. The third year is rich in birds, all of which may be drawn successfully, and here we find the problem one of difference in proportion. It is interesting to give long legs and bill to the snipe, the characteristic head and neck to the ostrich, and the clumsy, square head and round eyes to the owl. Butterflies are a joy to draw and goldfish in aquaria never lose their charm.

Certainly the most interesting way to study animals, though by no means the most successful from a graphic standpoint, is to bring the live animal into the schoolroom and draw from life. If only animals had a small sense of responsibility we should be so aided in this work. As it is, their actions are often most contrary and annoying—the excitement of the children seems contagious and posing is quite beyond them. One who has tried this kind of work always speaks feelingly about it, though all are agreed that it is the ideal way to study.



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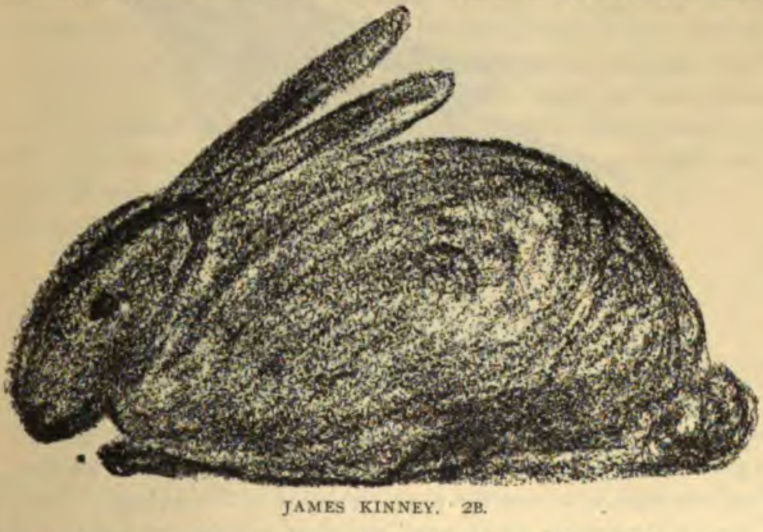
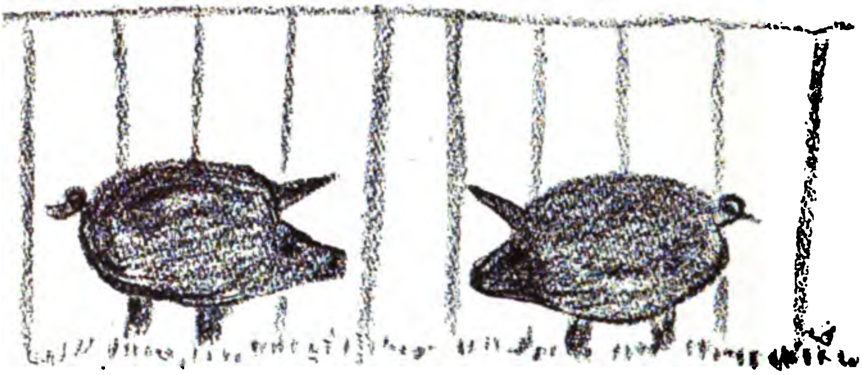


JAMES KINNEY. 2B.

How restful, by contrast, is the good picture of the cat or rabbit which may be placed in a prominent place, pinned against the wall, or passed about as the occasion demands. No running away or scratching or squeaking from this animal, and much time saved.

Pictures should be large, clear and well drawn and should show the animal in a characteristic position. Charming colored pictures of birds and butterflies may be bought for a few cents; and often good pictures of animals may be found in children's books, though care should be taken to choose those which are accurate. These books frequently depend on color for their success, while the drawings are very poor.



Make the first sketches in mass as that will help to show more clearly the proportions. Charcoal is a most satisfactory medium for this and may be used on ordinary drawing paper with great success. Brush and ink work is also good, though more difficult for the very little people to handle.

Find out first what are the characteristics of the animal. That "character" lies at the bottom of all good drawing, whether of animals, flowers, people, landscape. This quality is more easily found by discovering the differences rather than the likenesses in things. It is not because a cat and a rabbit each have a tail that they look like themselves, but because of the difference in those tails. Given four legs, two ears, and a tail, why does not your picture look like a cat? A drawing to be good should be immediately recognizable. It must be a cat or a dog or a pig without leaving room for doubt. If the doubt is there we have not achieved what we were working for.

Get first the general characteristics of the class and then the special characteristics of the individual. This last is mainly a question of proportion. You will find that the same peculiarities are common to all birds—the slanting body, the bill, the curve of the breast, the angle of the legs, etc., while the difference between a robin and a bluebird is shown by the variation of the proportion of these different characteristics.

Comparison with the type solids will often aid in getting the form; and thus we find that the rabbit's body is an ovoid, the pig's an ellipsoid, the young chicken's a sphere, the mouse half an ovoid, etc. The rabbit's head is oval, the mouse triangular, the bird's round, and the front view of the cat's square. Mass in these general forms, getting the proportion between head and body, decorate with the characteristic ears and tail—whiskers, too, if need be—and lo! you have a real and unmistakable animal—no hybrid beast, but a cat or rabbit or mouse, as the case may be.

Leave out all unnecessary detail, get the general mass and you cannot help getting a good drawing.

The word "character" will be found to predominate here, but no other word is quite synonymous, and I firmly believe that it is at the base of all good drawing and that unless we keep it in view will we get the results we look for.

The most noticeable part of Japanese nature drawing is the marvelous ability which this people possess of representing an object very directly with a few lines and yet losing nothing which is vital to the drawing. It is said that Japanese students who are being taught to draw are sent through a room in which there is an animal and then required to make a drawing from memory. In this way they are trained to look for the necessary lines and characteristic points and to leave out all unimportant detail.

We can learn a lesson from the Japanese. Let us do so.

TEACHING CONVERGENCE.

By Fred. H. Daniels, Director of Drawing, Springfield, Mass.

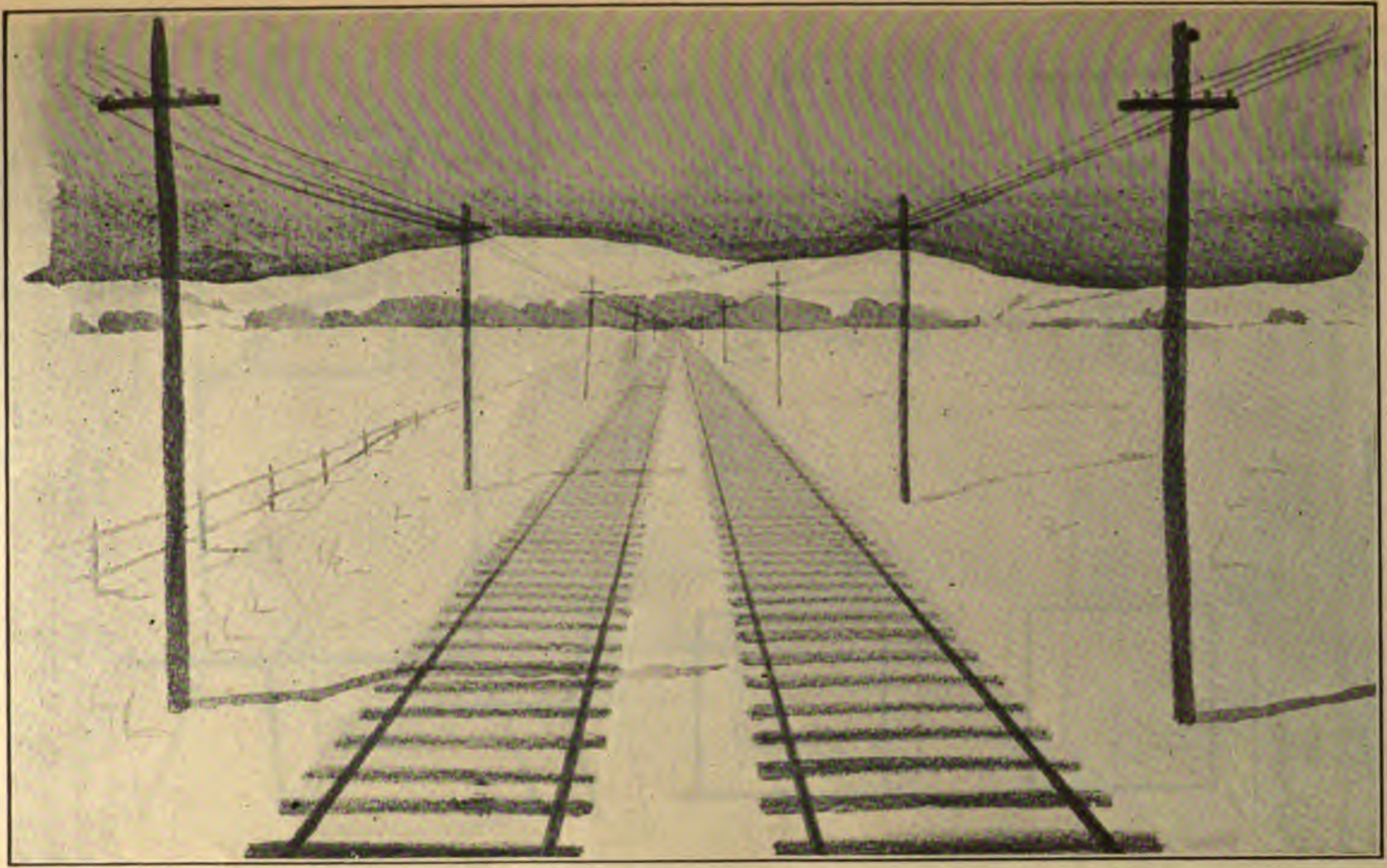
PROBABLY the most educational European tours are those including a lecture course. For example, suppose we are to visit the Roman Forum to-morrow. This evening the entire party will assemble in one of the hotel parlors and there listen to an illustrated lecture by an authority on Roman history and art. To-morrow, we shall go to the Forum with a background of Forum knowledge, we shall know what to look for, we shall see with understanding.

In a similar manner the artist approaches each subject which he is to paint, carve or build. His mind is stored with knowledge of fact and appearance, of cause and effect, of law and order. Otherwise all art would forever be at its beginning. No artist depends entirely upon sight; he continually utilizes this ever increasing background of knowledge. Again, all art is interpretation, not imitation. All drawing is a convention, an attempt to produce an impression on canvas or paper which will suggest to the spectator the reality which inspired the drawing. Hence the duty of the teacher of drawing is, to aid the pupil in acquiring an understanding of law which will enable him to set forth on paper an interpretation, a drawing of the subject in hand.

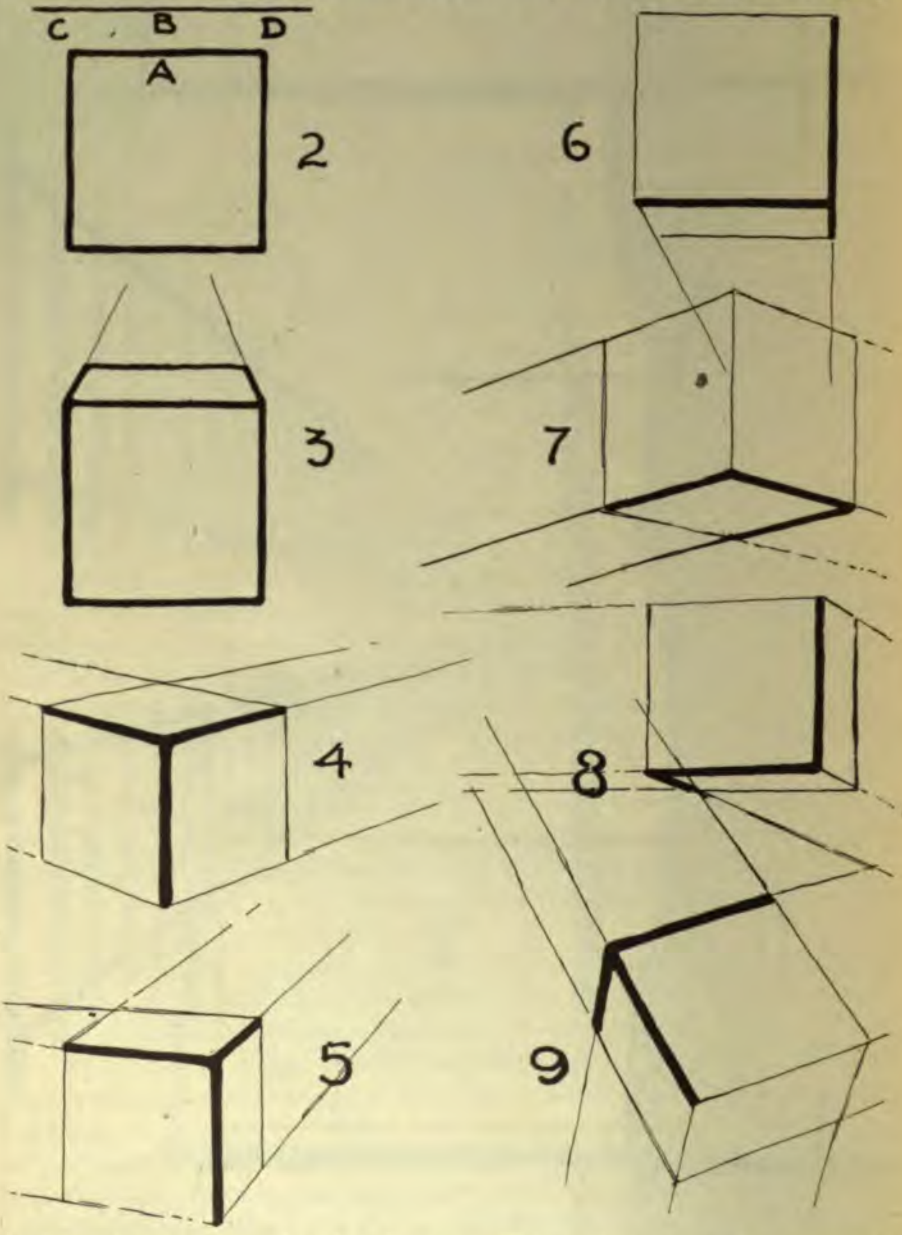
For years we have heard the maxim, "Draw what you see!" Unfortunately, we seldom knew what to see, or if we did, in some instances, the required seeing was too subtle for our untrained eyes. Perhaps the most notable illustration of this foolish command was in connection with the rectangular type solids. I very much doubt if one teacher in fifty can actually see the convergence in a four-inch cube; how much less a possibility is it to see it in a cube one or two inches on each edge? Is it strange that the teaching of convergence has been the most disagreeable of our drawing work?

The subject, often regarded as dull and most uninviting, is really interesting and replete with suggestion. It involves the laws of natural phenomena to which nature owes a major portion of her loveliness. What would the landscape be without the perspective effects which give us the endless variety in size, value and color!

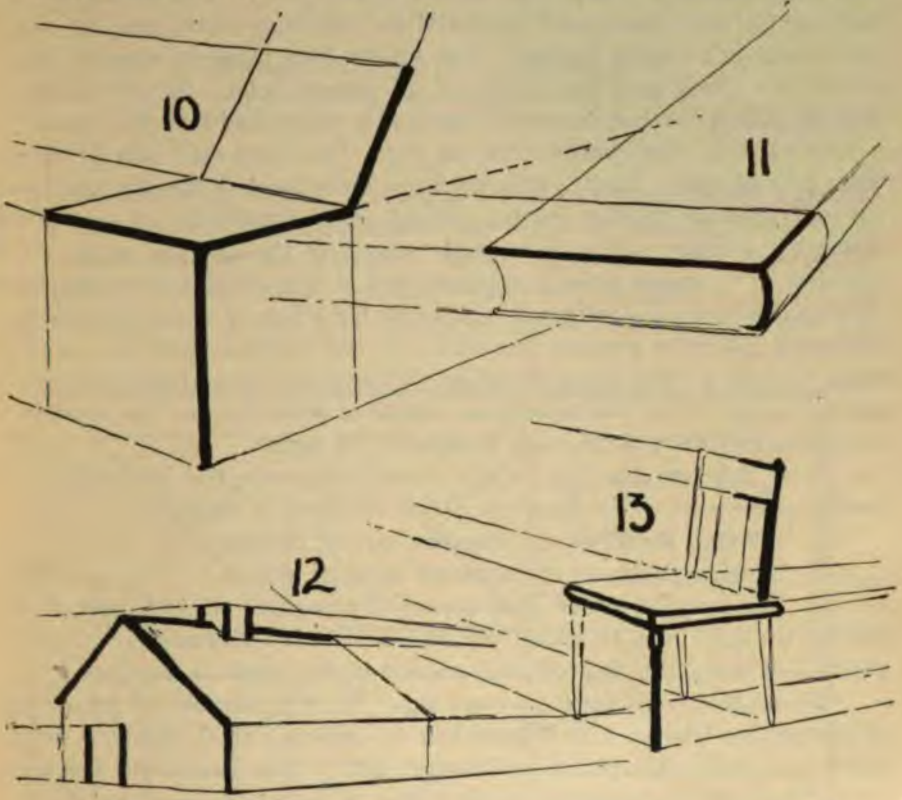
It is generally conceded that the subject of convergence cannot be grasped by puplis lower than the seventh year in school. Let us teach it as we do any other subject, as rationally as we know how. Let us begin the subject so as to arouse curiosity and interest from the outset. The dictated drawing of a railroad track will do this. Briefly, one method of giving this lesson is as follows: With a pale blue wash of water color paint (or ink and water) we will cover the paper perhaps one fifth of the way down from the top. Then we will add a little more color that it may gradually grow darker, and about a fourth of the distance down, we will stop the wash with the irregular line of distant hills. With the same color we will suggest a line of distant trees at the base of the hill, growing beside a suggested stone wall. Notice that the word "suggest" is used for that is all we are trying to do; it were useless to try to do more; fine art never does more.

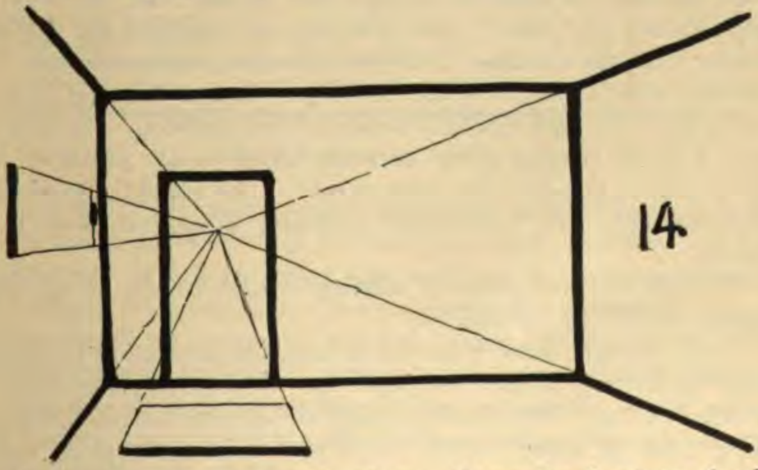


Keep the mass of the trees near the center of the picture. Suggest trees more distant and a wall coming down the hillsides in the background. Rule lightly with a hard pencil the four lines for the rails of the track, having their beginning at the edge of the woods. About an inch apart, rule lightly horizontal guide lines for the sleepers. This is important, for even with this aid and with constant admonition to the contrary, many pupils in the class will draw the sleepers tipping up on either track. It is the most difficult part of the drawing to make correctly. Beginning away off in the



distance, draw freehand the sleepers, using a hard pencil and leaving no space between them. As we come forward the lines are strengthened and space is gradually seen between the lines. In the immediate foreground,





use a soft pencil, and use it with vigor. From the front to the back there should be all the gradation of value possible to make with a pencil. The ties are drawn freehand because they are not in reality straight pieces of wood. Rule the iron rails, aiming to get the same gradation in value that we have in the sleepers. Draw freehand, with a soft pencil, the first telegraph pole on either side. From the top and base of each draw lightly a line to the vanishing point of the tracks. Place the second poles half way between the first poles and the vanishing point. The third poles are half way between the second poles and the vanishing point, and the others are located in a similar manner. The guides lines from the tops and bases of the first poles give the height of all distant poles. Notice especially that the poles grow less in width as well as in height and that they appear of lighter value as they recede from the eye. The wires may now be swung from pole to pole. Lastly, with the same color used in the sky and trees, we may indicate shadows on the ground (also diminishing in size in the distance), a fence and a few weeds emerging through the snow. The drawing is a success when it suggests that it is two miles from the front of the paper to the distant woods. A single black line or spot in the distance will mark failure to produce this effect. It will probably take two or three trials to gain a clear comprehension of the three laws given later on, if we may judge by the evidence on the sheets of drawings, but the problem is an interesting one and the class is eager to try again.

From this one drawing we can derive the perspective laws which we need to use in our object drawing. They are three in number:

1. Distance decreases the apparent size of objects.
2. Distance decreases the apparent value of objects.
3. Receding horizontal lines appear to converge. ("And meet on the level of the eye," may be added, but that is of little importance in grammar grades and tends only to produce confusion in the minds of the class.)

We are now ready for the second step. We will exercise this knowledge of perspective law, at first independent of objects. Here, figure 2, is the front face of a cube, placed horizontally and a little below the eye level. Line B indicates the apparent width of the top face, can you draw the two sides at C and D? After a class trial, we may reason it out this way: B is farther from the eye than A, it must, therefore, appear shorter. To make it shorter, sides C and D must converge. If our drawing looks like a cube, figure 3, we have correctly answered this problem. The dark lines in figures 3 to 10 suggest given lines for other similar problems with the cube to be thought out in the same manner. The added light lines give the correct answers. The result ought invariably to suggest Cube, not plinth or prism.

We may not give problems relating to such objects as are suggested in figures 10, 11, 12, 13 and 14.

Finally we will draw from the objects, not attempting the almost impossible by striving to have the pupil see the convergence in the edges of a book or a box. With his knowledge of perspective law, we can make a drawing from the object, which, in place of a few given lines, now offers to him the problem.

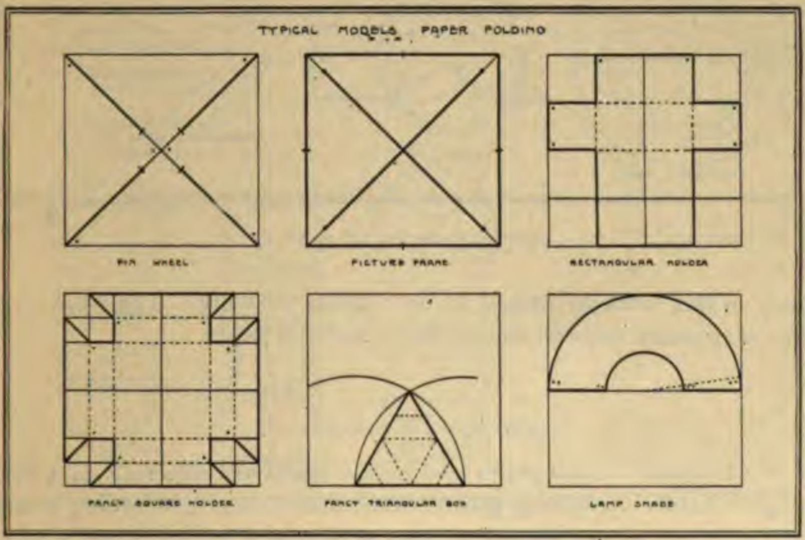
The laws of perspective are not complicated or confusing. Their teaching is not dissimilar to the teaching of other school subjects. First must come understanding, then drill, and finally the application.

Paper Folding, Tearing and Cutting.

By MAX WEBER, Instructor of Drawing and Manual Training, State Normal School, Duluth, Minn.

> "No man is born into the world whose work
> Is not born with him; there is always work,
> And tools to work withal, for those who will."
> —Lowell.

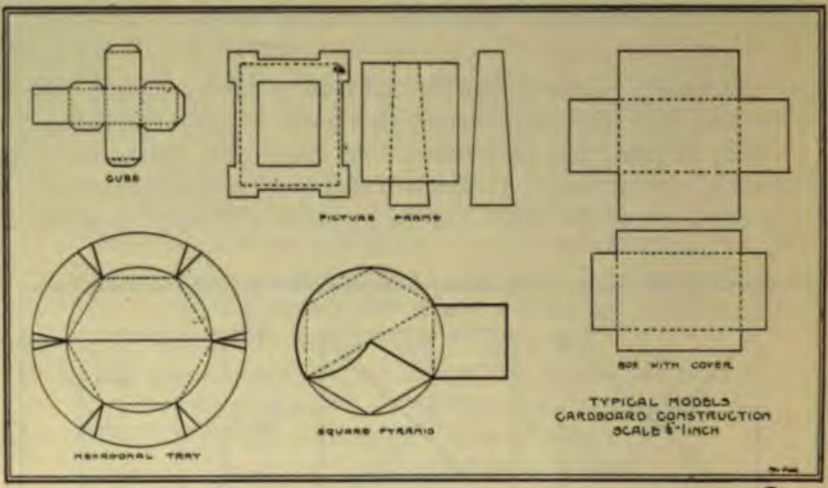
PAPER weaving, folding, tearing and cutting and cardboard construction are decorative and constructive forms of manual training work well adapted for children in the first two years of school. This work is very attractive to children and very satisfactory results are readily obtained after they have learned to follow directions promptly and to work in unison. The teacher must take great pains to have each step clearly understood and well done, so that succeeding exercises will have good foundation. It will be found that exercises in the arrangement of sticks and tablets are quite an important precedent or preliminary step to paper work proper, on account of the free change and movement. With this work the study of proportion, symmetry and order is actually begun in a very simple way through the teaching of lines and shapes, simple geometric terms, through exercises in placing, naming, finding; through selection, calculation, direction and contrast.



Scale of Reduction ½" to 1".

1

The work in paper cutting proper may profitably be introduced by paper weaving and folding; by tearing animal and bird forms, from imagination, memory and life. Fruits, vegetables, geometric shapes and simple vase forms may be tried, while the models in paper cutting should involve more difficult and definite exercises in planning, measuring and making and, moreover, the models should, as far as possible, be of distinct utility and of beauty. Stories read and told will help in the illustration of ideas related to seasons and holidays, child play and sport, interest and life in general. If colored paper is used efforts should be made to train the children in principles of harmony in this work as well as in the regular drawing. The work in this material is in many respects similar to the work in paper.

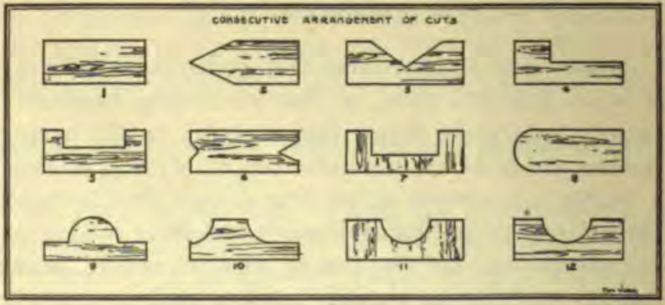


2

Scale of Reduction ½" to 1".

CARDBOARD CONSTRUCTION.

The cardboard manila paper and bristol board are materials of a firmer and coarser nature possessing greater structural strength, affording a larger scope of models, requiring greater pains, more accuracy in planning and measuring, cutting and pasting. It affords use for the knife and other simple tools as well as the scissors and is well adapted to the mental and



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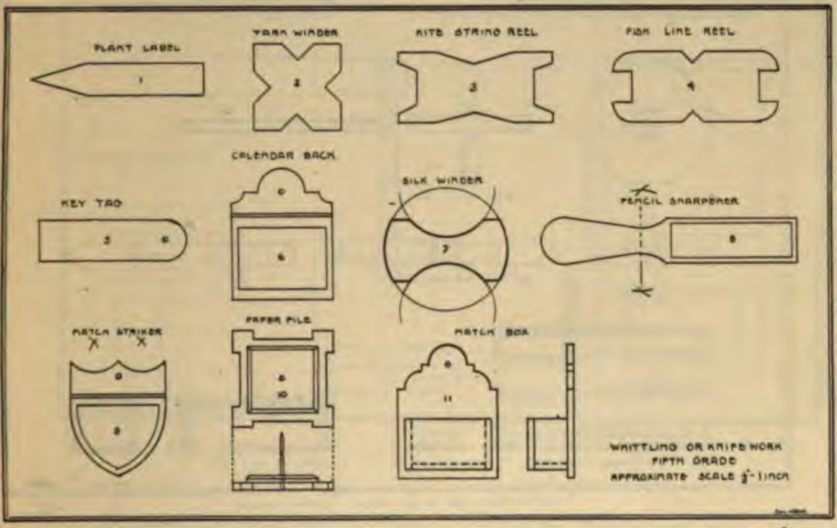
Scale of Reduction ½" to 1".

physical strength of pupils in the third and fourth years of school. It is an excellent precedent or transition to knife work in thin wood in the subsequent grades and offers more opportunity for applied design—decoration of spaces with simple units and borders, arrangements of spots and lines in ink, water color or crayon. The first few models should be based upon types the pupils have already made in paper folding with which they are now acquainted, and pupils should be encouraged to read and interpret simple working drawings. The importance of original models and the construction and decoration of the same can hardly be overestimated, and to encourage this practice good examples of finished work must be shown to children and points in them explained. As stated previously, this work, as well as all other branches of construction can be practiced in the higher grades in a more advanced form, not limiting it necessarily to any special school year.



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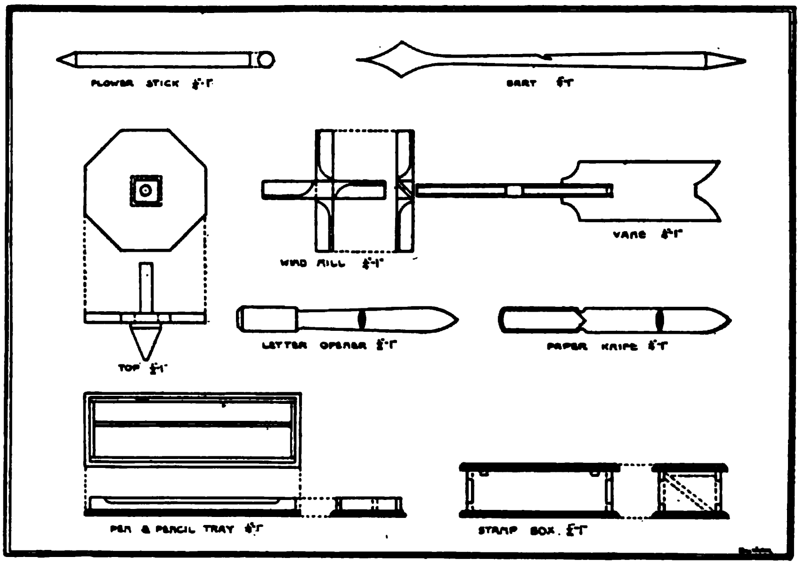
Scale of Reduction ½" to 1".

It may be found advisable to give work in loom weaving for a time in this year's work, to boys as well as girls, for it affords invaluable exercises and problems in color harmony, space relation, distribution of light and dark and repetition of units. It will, in many respects, echo or supplement the work in paper weaving. The history of loom weaving, the making of rugs, the dyeing of cloths, the preparation of wool for use may here be told to children in a simple way. This and the showing of good examples of modern production and of textiles or reproduction of such will be of great help and an inspiration to children. A trip to a mill, if convenient, will of course be a great lesson to them.

WHITTLING.

Boys having reached the age of ten or eleven are quite capable of handling the knife, especially after they have had manual training in the first four years of school. While paper, cardboard and clay are found to be the best adapted materials for children from eight to ten, basswood, 3-16 of an inch thick, being a wood of soft and uniform texture, is probably the most satisfactory material and means for expression for boys in the fifth year. Physically and mentally they are at this age prepared to take up more difficult work that requires greater effort in planning and making. All models in this year are made of 3-16" basswood, dealing with but two dimensions, length and breadth; and not to overtax children, the cutting is limited to the edge, and models are carefully graded so that each succeeding model becomes a little more difficult and more interesting in that a new exercise in planning, cutting and putting together is introduced with each model.

(*See illustrations, pages* 116-117.)



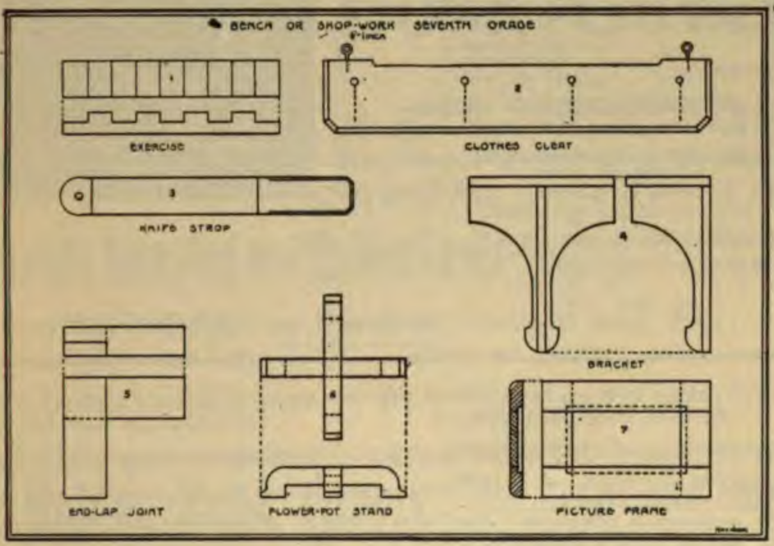
WHITTLING OR KNIFE WORK — SIXTH GRADE. 5

Scale of Reduction ½" to 1".

The models should be simple and of use in some way in the school room, at home or in the child's play. The consecutive arrangement of cuts as illustrated will prove helpful to those arranging an original set of models. The drawing or plan of each model should precede its construction, for it is quite important for children to learn to read and make simple working drawings as early as possible. Pupils may be allowed to lay out their work from drawings placed upon the blackboard or from drawings furnished them. After they have learned to read and make simple working drawings, to use the T square, the triangles, compasses and rule, learned to use and to take care of the knife and to properly use the trysquare in testing and drawing, and have satisfactorily finished a number of models, they should be encouraged to design and make several models. This original work, however, must be carefully supervised by the teacher.

The work for the sixth year deals with the three dimensions, length, breadth and thickness, and requires the use of white pine, basswood, sweet gum, red cedar and white wood or yellow poplar. The experience and age of pupils in this year, the variety of woods and the addition of the third dimensions afford us much more freedom in designing models of greater interest and use.

The tool and instrument equipment is the same as that used in the fifth year elementary whittling; the knife for cutting, and for laying out the work a trysquare, a rule, a pencil and dividers are used. Here, too, after several models have been made from designs or drawings furnished for the whole class, encouragement should be given to pupils to design, make and decorate if possible original models. Ideas of structural and decorative ornament should be developed as the work advances and good examples of simple work in applied design should be shown to them, as illustrated in the accompanying plates. Very simple and very flat carving of straight lines, units and borders and conventionalized flowers or sprays may be employed in decorating models. The application of such designs should receive much attention. Pupils may be allowed to use two or three simple, well related colors. Artists' oil colors, thinned with turpentine, applied with a soft brush and wiped off with a cloth, will produce very satisfactory results. This process is very simple and interesting and tends to add much to the general appearance and value of the finished model.



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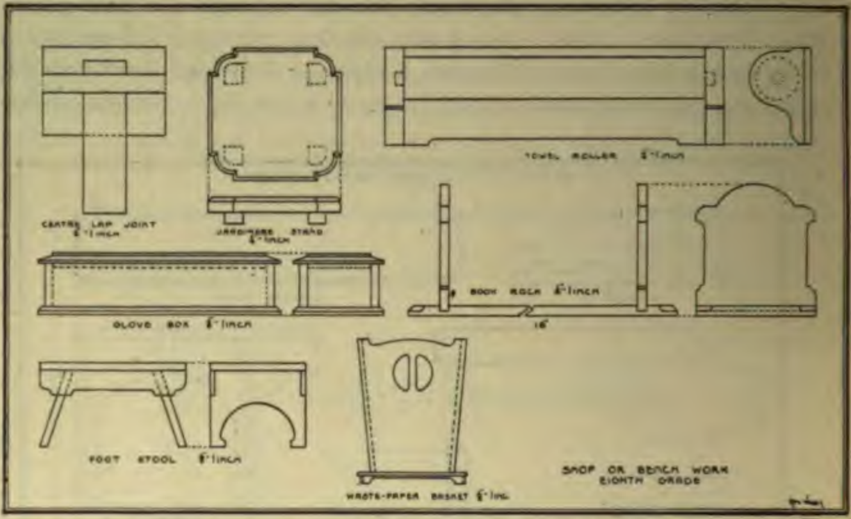
Scale of Reduction ½" to 1".

These models are arranged to follow one another in the natural sequence as did those of the fifth year, each model bringing in some new principle in cutting or some new method of securing accuracy. Thus in the first model, the flower stick, the pupil starts with a rough piece of stock split from the board and first obtains a working surface from which to lay off his work.

He tests this with his rule, then lays off a straight line as a guide in whittling another surface at right angles to the first. He now lays off a line for the third surface, then makes the fourth surface parallel with the first, and thus he obtains an accurately squared stick. Next he marks off the four corners and pares them to the line, turning it into an octagon. He now proceeds to make the square stick round and as the cylinder is being worked out and modeled the point is carried forward, following the same principles; and the same method is employed in all the models which follow in order to obtain the best results.



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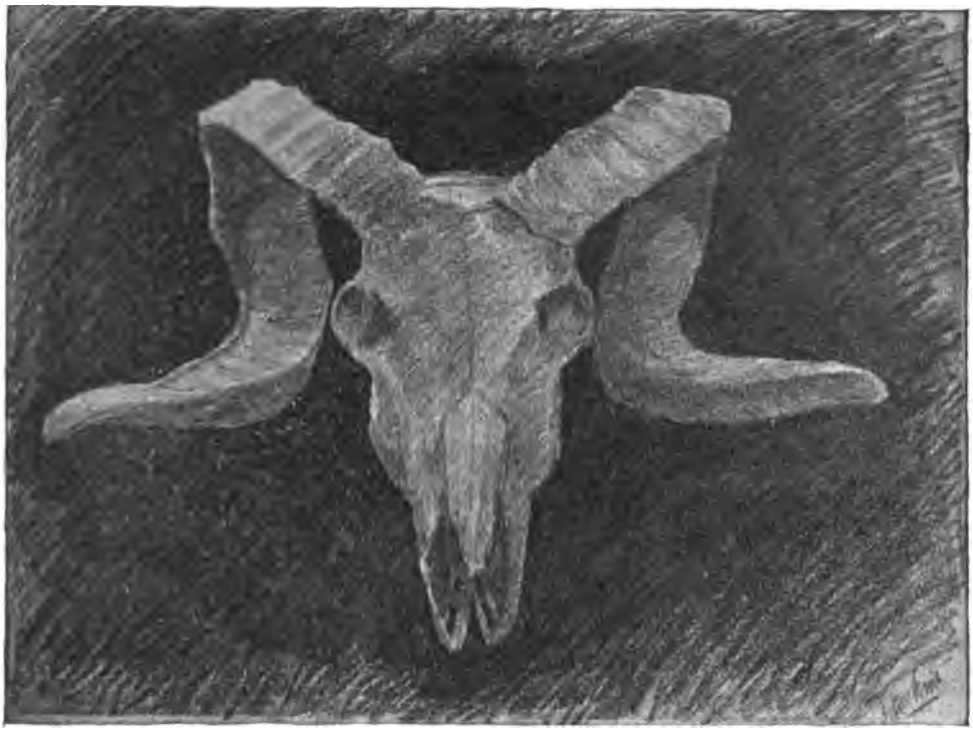

Fac simile of drawing made by pupil in Erasmus Hall, Brooklyn, with Dixon's Pencils.

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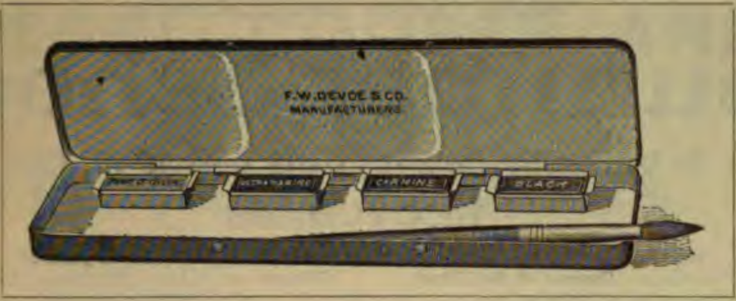

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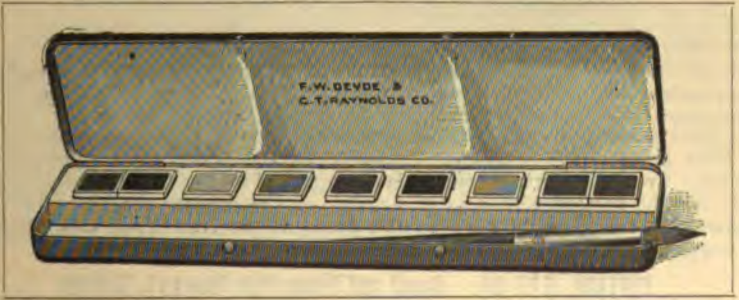

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New York Teachers' Monographs

PLANS AND DETAILS OF GRADE WORK

OCTOBER 1905

Nature Work—Fall Term

By Martha J. McMulkin, Head of Dept., P. S. 42, Brooklyn.

First Year.

Three 10 *minute talks; four* 15 *minute lessons.*

1st week—Golden-rod.
2d week—Aster.
3rd week—Geranium, burdock.
4th week—Apple, pear.
5th week—Peach, plum.
6th week—Cat.
7th week—Rabbit.
8th week—Potato, onion.
9th week—Canary.
10th week—Duck.
11th week—Pumpkin, chestnut.
12th week—Chrysanthemum, sweet potato.
13th week—Pigeon, sparrow.
14th week—Peanut, acorn.
15th week—Corn, carrot.
16th week—Mouse, turnip.
17th week—Review birds.
18th week—Review other animals.
19th week—Review vegetables and nuts.
20th week—Review flowers.

As "no class is expected to study all of the topics in nature study that are suggested in the syllabus" each teacher should select the topics which she is best able to present to her pupils, taking into consideration: the home and the school environment, the illustrative material at hand and the literature which is planned for the term.

This selected material should be covered in sixteen weeks, the last four weeks of the term being used to specialize—so that each department of the nature work may be strengthened. The class room decorations, drawing, memory gems, stories, etc., should bear upon the special work of the week.

FIRST YEAR, FALL TERM.

Flowering Plants:

Material: If possible have growing plant in the class room for several days or during the series of lessons. Lead children to observe the parts common to all plants and note the difference in color and odor. Give each pupil an opportunity to express himself; orally, by drawing, by molding or by color work.

Golden-rod (Composite).

Flowers, very small, clustered together in bunches, called heads; color, bright yellow, no odor. Roots, strong, brown. Stem, smooth. Leaves, narrow, sharply toothed.

Aster (Composite).

Flower heads composed of blue or purple ray flowers, with a center of yellow disk flowers—own cousin to golden-rod. Stem, stout, rigid, hairy, two or three feet high. Leaves, elongated, heart shape on main stem, tiny leaflets grow on the thin stems which support the flower heads. No odor.

Burdock (Composite).

Large fleshy root—biennial. Stem, stiff, upright, somewhat branched and leafy, grows to the height of three feet. Leaves, large stalked and heart shaped. Flowers, usually a bluish purple, grow in nearly globular heads; the scaled involucre ends in a long prickle, hooked at the point. By means of these hooks the burr, as the flower head is called, lays hold of the clothing of passers by, the wool of sheep, etc., and thus the seeds are transported. The appearance of the plant is coarse; it grows in waste, bushy places where the soil is rich. It has a disagreeable smell, a bitter taste, and is clammy to the touch. The root is sometimes used in medicine; the juice of the leaves relieves the pain from a burn.

Geranium.

Study growing plants in class room.

There are many varieties, different colors, some have disagreeable odor, others a pleasant aromatic smell, some a delightful fragrance. Leaves vary in shape, some almost round, some bean shaped, others deeply divided. Grow well in a light rich soil. Kept low by pruning to make them more productive of flowers.

Chrysanthemum.

(Name from two Greek words meaning golden flowered.)

Many varieties varying in size and color.

Root fibrous. Stem, long and straight. Leaves, on stem, small and lobed.

A rather pungent odor.

Usually, in this climate, reared under cover. In specially cultivated varieties the branches are cut away, and only the main stem with a single flower left.

FRUITS

Apple.

Color: Red, green, yellow, streaked.
Taste: More or less aromatic, sweet, sub-acid.
Odor: Agreeable in the open air.

Parts: Apples are roundish or narrowest towards the apex, with a slight depression at each end—stem and flower. The skin is in many species thin and transparent, in others thickish, and in some downy; the pulp, or eatable part, is crisp and juicy; the core is made up of fine shell-like cells, which contain the seeds. The seeds fit so loosely in the cells that they frequently rattle when the apple is shaken.

Uses: For the dessert, for baking, preserving; making jelly, cider and vinegar.

Pear.

Color: Green, yellow touched with red.

Taste and odor very much like its relative the apple, but of a juicier pulp.

Parts: The pear is hemispherical at the blossom end, tapering to a point at the stem end. Skin, pulp, core and seeds much resemble that of the apple.

Uses: For dessert, made into preserves, cut into pieces and dried in the sun or oven to be afterwards stewed or made into pies. Perry, a drink somewhat like cider, is made from the juice. The wood of the pear tree is valuable to turners and joiners; it is often stained black in imitation of ebony.

Peach.

Color: White or yellow tinged with red.

Taste: Sweet, juicy, highly flavored.

Odor: Pleasing, somewhat aromatic.

Parts: Skin, downy; drupe or eatable part fleshy, succulent. Large, rough, hard stone, containing nut like kernel much resembling the bitter almond. The peach is usually roundish in form, indented at the stem end, and with a slight depression all around the outside dividing it into two equal parts.

Uses: For dessert, made into preserves, marmalades, pies, etc. Often dried in the sun or in an oven, each fruit being divided into two parts, and the stone taken out; a kind of brandy is made from the juice. The leaves, when bruised, yield a sedative.

Plum.

Color: Blue, purple, green, red.

Taste: Vary greatly according to variety.

Odor: Owing to waxy nature of skin very little odor escapes.

Parts: Plums are usually oval in shape; the stem is smooth, tough and waxy; the drupe, juicy in some species, fleshy in others, very watery; the stone which contains the seed is pointed at both ends. The fruit is usually covered with a fine bloom, and has a longitudinal furrow passing all round; the stem end is indented.

Uses: One of the most delicious dessert fruits; if perfectly ripe and eaten in moderate quantities they are wholesome, but excess in the use of them is apt to produce colic or diarrhœa. Dried plums, or prunes as they are called, are much used as an article of food. The wood of the plum tree is hard and fine grained; it is much used in cabinet work and for making musical instruments.

Chestnut.

Color: A reddish brown.

Taste: Sweet, mealy taste.

Odor: When cooking, very pleasant.

Parts: The nuts, from two to three, are enclosed in a prickly husk, called a burr; the kernel is protected by a rather tough shell.

Uses: For food. Chestnuts form a principal part of the food of many poor people in the south of Europe. They are boiled, roasted or ground into flour, from which a sort of bread is made.

Peanut.

The peanut is the edible seed of a trailing plant related to the bean family. Two of these seeds are enclosed in a brittle pod. They ripen under ground, hence called, sometimes, ground nuts. Each seed consists of two parts, and is wrapped about by a thin brown skin. Peanuts are usually roasted before they are eaten.

Acorn.

The acorn is a round nut placed in a scaly cup; the nut is usually brown in color, the cup a greenish brown. In general, acorns have a bitter taste, but a few species of oak trees produce acorns which are as sweet as chestnuts. In some countries, where food is scarce these sweet acorns are eaten, either alone or prepared with meal. They prove very nourishing food for swine. Oil is sometimes obtained from acorns; this oil is used for cooking purposes.

VEGETABLES

Potato.

Color: White, red, dark purple, variegated.

Parts: Skin, starchy pulp, buds or eyes.

Uses: The potato is used as food for human beings and for cattle. Potatoes are more healthful when boiled, the boiling process frees them from certain narcotic properties which are more or less injurious. That which we know as the potato is a tuber which occurs on the roots of the potato plant. The blossom of the potato is white and yellow, the fruit a small green globe (known as potato apples) which contain the seed.

Onion.

Color: White, yellow, red.

Parts: Skin, bulb, formed of layers; fibrous root; stem and leaves which wither when the onion is mature.

Uses: As food—raw, boiled, fried, roasted; used to season soups, sauces and stews. A roasted onion applied hot will relieve toothache or earache.

Carrot.

Color: Generally red, sometimes orange or yellowish white.

Parts: Long, tapering root; this fleshy edible part is covered with a thin skin. The root is somewhat ridged with tiny rootlets at each ring. The carrot is a biennial, producing root and leaves the first year. The second year the seed is produced. When the seed is ripe, the root is an empty shell, all the substance stored in it during the first year having been used by the plant in perfecting the seed.

Uses: As a food, very easy of digestion if well cooked. The larger and coarser kinds are used to feed cattle. The carrot has medicinal qualities—grated, it is used as a poultice.

Turnip.

Color: White, yellow, purplish.

Parts: The root is generally of a roundish form at the upper part, tapering to a point from which tiny rootlets extend. The pulp, which is very watery, is covered by a rather strong skin; the leaves are large and stalked. The turnip is, like the carrot, a biennial, producing seeds the second year.

Uses: Food for cattle and sheep. Garden turnips used for culinary purposes; the young leaves are sometimes used as greens.

Sweet Potato.

Color: A brownish yellow.

Parts: The sweet potato is a tuber growing in clusters on the root of a trailing vine. The skin is somewhat tough, the pulp very sweet. On the surface are very small eyes, from which a thread-like rootlet extends. The leaf and flower of the vine resembles that of the morning glory.

Used as food.

Pumpkin.

Color: Yellow, orange.

Parts: Skin, pulp, seeds and stringy substance surrounding seeds. Leaves, broad and lobed; leaves and stem rough. Produce large, yellow flowers on trailing vine.

Uses: For culinary purposes—pies, soups, fritters and for feeding cattle.

Corn.

Color: Ranging from light yellow to red.

Parts: Seeds arranged in rows on an axis of the spike generally called a cob. The silken tassel clings to the ear, which is wrapped about by many long thin green leaves called spathes. The stem is long and jointed, leaves narrow.

Uses; For food—boiled, roasted, made into meal, hominy, groats and pop corn. A very fine food for cattle, poultry and pigs.

FOUR-FOOTED ANIMALS

The Cat.

Material: Introduce a quiet cat into the class room. Have pictures of cats in characteristic attitudes.

Color: Gray, black, white, striped or "tiger cats," tortoise shell.

Parts: Round head; eye, pupil of which adapts itself to darkness as well as light; whiskers (called feelers) with which she measures openings through which she wishes to pass; cushioned paws, which enable her to tread as noiselessly as if on velvet; five toes on her fore paws and four toes on her hind paws; a sharp claw on each toe, which she has power to thrust out when needful, and which are withdrawn when at rest; long tail, which she curls gracefully from side to side when she is pleased, and erects stiffly when she is angry.

If we open the mouth of Mrs. Puss we find six cutting teeth in front, long sharp teeth for tearing at the side and jagged grinding teeth at the back. We will notice also, that her tongue is covered with little prickles that point backwards to her throat, these enable her to lick every bit of flesh off a bone; the sides of her tongue curl up when she laps milk or water.

Covering: The cat is covered with fur, soft and fine. Pussy likes us to rub her from the head downward. She keps herself very clean, does not like to get her feet nor her fur wet; her skin is very loose.

Food: Mrs. Puss loves to eat flesh—mice, birds or pieces of meat; will also lap milk and eat bread.

Uses: Keeps our houses free from mice and rats; eats moles that would injure vegetables and grains.

Movements and actions: Runs, jumps, walks softly, crouches slyly, climbs trees, plays with her prey before devouring it, purrs when pleased, mews when hungry, arches her back and spits when angry.

Care of young: The cat is very fond of her young, whom we call kittens. She feeds them with milk, washes them all over with her rough tongue, and teaches them to hunt for their food. If Mrs. Puss is obliged to move while her babies are small, she carries them, one by one, to her new home, grasping them by the loose skin at the back of the neck.

The Mouse.

Material: A live mouse in a cage trap. Keep in class room for a week or more. Give children an opportunity to observe its habits.

Color: Brown, gray, sometimes white.

Parts: Forelegs shorter and weaker than hind legs; fore feet have four toes, the hind feet five toes; ears large in proportion to size of body; large eyes set so that mouse can see in all directions; whiskers like cat for measuring openings; long nose and upper jaw, under jaw, short; long, slender, bare tail; sharp gnawing teeth like those of rabbit; smallest of rodents.

Covering: The mouse wears a fine fur coat.

Movements: The mouse is very quick in his movements, runs, jumps, scurries through the smallest opening at the least sound.

Care of young: Mrs. Mouse makes a lovely home for her babies, of the finest and softest material that she can find; she feeds them with milk.

The Rabbit.

Material: A live rabbit introduced into the class room several times during the series of lessons. Good pictures.

Characteristic movements: The rabbit has a hopping motion which changes to a jumping gait when "Bunny" is in a hurry; he loves to gambol about in the moonlight; frequently seen standing on his hind feet, fore feet hanging useless. The rabbit gnaws his food.

Color: Varies with different species, in general a mixture of brown, russet and white; tame rabbits are white, black, gray and fawn.

Parts: Head, rather long, convex above; two long, sharp, strong teeth in each jaw, for cutting, two weaker ones behind these and chewing teeth in the back. The teeth are sharpened by the animal nibbling hard bark; they keep growing out to repair this waste. Eyes large and prominent, placed so that he can see behind him without turning his head. The ears are as long as the head, concave and narrow; can be turned in any direction. When running Bunny holds them down and flat so that the air pressing against them will not hinder him and also to have them out of the way when running under fences and brush. The neck is short, the body round and plump. The hind legs are longer than the fore legs. Each fore foot has five toes, each hind foot four toes. The soles of his feet are cushioned and covered with hair.

Covering: The rabbit is covered with fur of different lengths, the shorter is very fine. There are bristles from four to five inches long about the mouth.

Food: The rabbit eats vegetables, grass, leaves and corn, sometimes strips the bark off young trees.

Uses: Flesh used for food; skin, with fur on, used for making caps and coats, and also for lining cloaks; the hair is used in making felt, and the skin is converted into glue.

Care of young: Mrs. Rabbit makes a separate burrow for her babies. In it she makes a nest of grass lined with her own fur. She feeds them with milk.

BIRDS

Canary.

Material: A live bird kept in a cage in the class room for several days.

Good pictures of the canary in characteristic attitudes.

Recognition and name.

Color: Father bird yellow, mother bird a yellowish green.

Parts: Children led to observe and talk about the canary's pretty head; bright black eyes; rather short, strong bill; neck which seems to shorten and grow thicker when the bird sings; wings; slender legs; feet furnished with four toes, three of which point forward and one backward, the end of each toe protected by a long, sharp nail.

Covering: Feathers, short on the neck, back and breast. Wing and tail feathers longer and stronger. Show parts of the feather (from a larger bird), quill, barrel and barbs.

Food: Whilst the canary remains in the class room we must give him seeds of various kinds, some green vegetable matter, as a lettuce leaf; we must spread a little sand and fine gravel in the bottom of the cage for him to pick at; and we must furnish him with plenty of clean water for drinking and for bathing purposes. All the children should have an opportunity to observe the bird cracking a seed, discarding the shell and daintily eating the kernel, throwing back his head in the act of drinking, etc. The bird's bath is an object lesson in cleanliness.

Movements: Flies, hops, plays with rings in cage, bathes, preens his feathers.

Songs: Sings very sweetly; has many low, soft love calls; can be taught to imitate whistled tunes.

Pigeon.

Material: A tame pigeon in a large cage or in a box with slatted sides. Pictures of doves and pigeons.

Recognition and name: Stories.

Color: Varies with species. Many are bluish gray on back; breast may be reddish brown with green and purple reflections; a few dark blue feathers edged with white in wings and tail.

Parts: Wings rather large and pointed; tail generally square at the end; legs and toes a reddish orange; bill hard and a little arched at base.

Covering: Feathers.

Food and feeding habits: Berries, grain, seeds, nuts, snails, slugs, etc. The pigeon uses his bill to scratch for food, and drinks by putting his bill into the water and drawing the water up as horses and cows do.

Movements: Flies, walks, perches.

Call: A soft coo-oo, coo-oo, coo-oo.

Interesting matter: The pigeon makes a loose, careless nest, lays two white eggs. The young are called squabs. The food of the young is a milky fluid secreted by both parents; the young bird places his bill in his parent's mouth and sucks this fluid from the parent's breast.

English Sparrow.

Have children observe these friendly little fellows from the class room windows and round their homes.

Recognize and name from good pictures.

Children try to tell color, movement, etc. As this bird is to be studied more extensively in the third year would merely direct the children's attention to it in this grade, telling them its favorite haunts.

Duck.

Material: Stuffed specimen. Good pictures. B. B. drawing, changing boat into duck.

Recognition and name.

Color: Mr. Duck, head and upper part of neck emerald green, with white collar, body and lower part of neck dark chestnut, bright iridescent blue in the wings.

Parts: Broad, flat bill, notched at sides. Flat foot, three toes united by a web and a small hind toe not included in the web. Legs and feet covered with rough yellow skin.

Covering: Glossy feathers kept well oiled. (Why?) A close coat of down next the skin keeps the bird warm when swimming in cold waters.

Food and feeding habits: The duck seeks the water rather than the land because its food is mostly found there. The food consists of seeds, worms, young frogs, small fish and aquatic plants. The duck plunges his bill into the mud or water and strains out the food which he likes, the water passing out through the notches at the sides of the bill.

Movements: Flies, swims, waddles, dives. The duck's legs being set far back on his body he can not walk well.

Call: Quack, quack.

Interesting matter: Mr. Duck is called the drake. The mother duck makes her nest in a clump of rushes, lays nine to thirteen greenish blue eggs somewhat larger than a hen's egg. The baby ducklings are covered with soft yellow down.

SECOND YEAR. FALL TERM.

FOUR-FOOTED ANIMALS

The Cow.

Material: Good pictures; a horn, a hoof, some hair (body and tail), a piece of leather, buttons, comb, glue, a piece of plaster.

Color: Black, red, white, fawn, spotted, strawberry (white and red hairs).

Parts: Large head furnished at each side with horns, which are hollow. On each foot are two toes, protected by nails called hoofs. The cow is said to have a cloven hoof. Behind and above the hoof are two little toes like spurs. If we look into the cow's mouth we will find sharp teeth in the front of the under jaw; in the upper jaw is a hard toothless pad; at the back are six grinders on either side top and bottom. The cow has a long, limber, rough tongue, and thick, broad lips. With her tongue she draws in the long grass which she nips off by pressing her lower front teeth against the hard pad above. The tail is long and slender, with a brush of long hair at the end.

Covering: A thick skin, hair.

Food: Grass, hay, turnips, carrots, beets, corn, chopped grain, bean, salt, water, etc.

Uses: The cow gives us milk, cream, butter and cheese. When killed we get from the cow beef, suet and tallow; combs and knife handles from the horn; buttons are made from the bones; glue from the hoofs; the hair is mixed with lime and sand to make plaster. The skin of the cow is made into leather from which boots and shoes and shoe soles are made. The flesh of the calf is called veal; from the hide of the calf fine shoes are made.

Movements and habits: The cow walks about when grazing; not a very fast walker; runs in a heavy, clumsy fashion. In warm weather the cow likes to stand in shallow water; this is because flies bother her by biting her legs. When the cow gets very warm she opens her mouth, lolls out her tongue and pants. This is the cow's way of sweating. (Compare with dog.) When the cow has eaten a great deal of grass she lies down or stands in a shady place and begins to chew. The cow has a very large stomach. When the grass was first bitten she swallowed it without much chewing; it went into a room in this large stomach, where it soaked for a time. Now, when the cow is resting, she brings up a wad of this soaked grass. After she has chewed this for some time she again swallows it, and it goes into another room in her stomach, and so on. When the cow chews she moves her lower jaw from side to side. When a cow lies down she kneels thus, lowering the front part of her body first. When she gets up the hind part rises first.

Homes: The cow lives in the pasture field in summer and in the stable in winter.

Care of young: The cow's baby is called a calf. It is a pretty creature, with large, soft brown eyes. The mother takes good care of it, licks it over with her tongue—this is her way of kissing it—stands still for it to get its dinner, and cares for it when it is taken away. She defends her baby from all intruders by using her horns.

The Dog.

Material: Good pictures; if possible a large, quiet dog in class room during part of the lesson period.

Color: Brown, black, white and combinations of these colors.

Characteristic parts: Vary with species; in general the dog has a large head, large, beautiful eyes, ears in some kinds large and hanging, in others short and erect; mouth having very strong jaws and stout, sharp teeth; cushioned feet with claws that are not capable of being withdrawn. Very keen scent.

Covering: Hair in some species long, fine and silky, in others short and coarse, sometimes straight, sometimes curly.

Food: Meat, milk, bread, etc.

Uses. The friend, companion and protector of man. Guards the house, helps in the chase, draws heavy loads, saves human beings from drowning and from perishing in the snow; minds the sheep, etc.

Movements: Runs swiftly, swims well, frisks about and wags tail when happy.

Homes: The house, barn, some, as Asiatic dogs, homeless.

Habits: Cools himself by panting, growls when angry, yelps when hurt, draws his tail between his hind legs when ashamed, very wakeful at night. Very affectionate, would die for his master.

Care of Young: The mother takes good care of her babies. Feeds them with milk. If obliged to move while the babies are small, carries them with her.

The dog is faithful to his master, will not steal from him as the cat does. The dog is a fine swimmer; the cat will not willingly wet her feet. The dog strikes his claws on the ground when walking, the cat moves silently. Cats can climb trees, dogs cannot. The cat licks the meat off a bone, the dog grinds bone and all in his strong jaws. Dogs vary in size, from the tiny terrier that may be carried in one's pocket, to the mastiff, which is as large as a deer. Cats are nearly uniform in size.

The Beaver.

Material: Good pictures of the beaver and of his home.

Color: A blackish brown, hairs tipped with chestnut.

Characteristic Parts: Largest of gnawing animals, three feet in length; body thick and heavy. The beaver has two chisel-shaped teeth in each jaw, the front teeth are sharp and strong. The feet have each five toes. The second toe of the hind foot has two claws; the hind feet are webbed; he uses only the hind feet in swimming. The tail is large, oval and flat; it is covered with scales.

Covering: Fur, consisting of two kinds of hair, the longer comparatively coarse, smooth and glossy; the under coat dense, soft and silky.

Food: Berries, leaves, roots and the bark of the poplar, birch and willow in summer; in winter the beaver feeds on a species of water lily and other aquatic plants.

Uses: Flesh used for food, tastes something like pork; fur used for covering hats; a secretion of the beaver called castoreum is used as a perfume and as a medicine.

Movements: Swims, walks—sometimes on the hind feet with support of the tail. Great workers.

Homes: Houses or lodges grouped together near the edge of the water, the mud scraped away from the front so that there may be a sufficient depth of water to allow free egress during the most severe frost. These houses are built of driftwood—green willow, birch, poplar—mud and stone; outside made smooth by layers of clay.

Habits: All work done at night; carry the mud and stones between the forefeet and the chin. Often sit on their hind feet and tail to eat, holding food in their fore paws. Cut down trees, trim off branches and draw them to their lodge. Beavers construct dams across the streams near their houses to prevent the water draining away during the dry weather. If the currents are slight the dam is straight, but if swift, the dam is curved toward the stream. Beavers live in colonies; they build their own houses separately, yet all the members of the community unite in building the dams. The beaver is very shy and timid, but very intelligent. When tamed he is gentle and docile. The young usually remain with the parents until they are two years of age. A family occupying one house often consists of the father and mother, big brothers and sisters two years old, smaller ones one year old and from two to seven babies.

The beaver is larger than the squirrel, but not so active. The beaver's tail is not bushy like the squirrel's. The beaver can swim, the squirrel can not. The beaver lives near the water, the squirrel's home is generally in a tree. Both gnaw their food and both use their fore paws like hands.

SECOND YEAR.

Three ten minute talks; three twenty minute lessons.

First Week—Grasshopper, sunflower, butter and eggs.
Second Week—Cricket, petunia, morning glory.
Third Week—Potato, potato beetle, marigold.
Fourth Week—Goldfinch, thistle, milkweed.
Fifth Week—Humming bird, dandelion, nasturtium.
Sixth Week—Phœbe, tomato, pea, bean.
Seventh Week—Elm, maple, sycamore.
Eighth Week—Cabbage, cauliflower, Brussels sprouts.
Ninth Week—Owl, oak, hickory.
Tenth Week—Gull, lemon, quince.
Eleventh Week—Turkey, chestnut.
Twelfth Week—Cow, grape.
Thirteenth Week—Dog, radish.
Fourteenth Week—Beaver, sweet gum, date.
Fifteenth Week—Vines, balsam, fir.
Sixteenth Week—Golden crowned kinglet, spruce.
Seventeenth Week—Review birds.
Eighteenth Week—Review other animals.
Nineteenth Week—Vegetables and fruit.
Twentieth Week—Flowers.

SECOND YEAR. FALL TERM.

BIRDS

The Humming Bird.

Recognition and name from picture.

Ruby-throated humming bird, size from 2½ to 3½ inches in length; smallest and most exquisite of the feathered tribe. Seen here between April and November.

Color: Varies according to the light. Usually bright, metallic green above; throat and breast shading from metallic red through bright orange to a rather dusky shade of orange; wings and tail purplish hue with dusky white tips.

Parts: Bill long and needle-like, very long tongue, consisting of two filaments joined together for the greater part of their length, but separated at the tip. The humming bird is distinctly American; its main characteristics are brilliancy of coloring, extreme rapidity of flight, humming sound made by wings, power to hover above the flowers from which it obtains its food. When stripped of its feathers one species is not larger than a bee.

Food: The humming bird sips the nectar from the deep-cupped flowers, the trumpet vine and honeysuckle being favorites; it also eats insects and plant lice.

The nest is a most dainty structure, about one and a half inches in circumference, lined with the softest of plant down, blued on the outside with pieces of bark and bits of lichen; when fastened securely to a horizontal limb it is very hard to distinguish it from a lichen covered knot. The eggs are two in number, pure white and about as large as peas. Mr. Humming Bird sometimes betrays the nest in his wild desire to fight every enemy that comes near it. The baby bird learns to fly when quite young, sometimes taking the first lesson when one week old, often seen perching before they gain the rapid wing motions of maturity. The food of the humming bird consists not only of the sweet juices of flowers, but also of plant lice and insects. The baby birds feeds by putting its own bill down its parents' throats and sucking nectar and insects regurgitated in a digestible form.

Call: A shrill squeak resembling that of a mouse.

The skins of humming birds were employed for ornamental purposes by the Indians before the discovery of America by Europeans. The Mexicans made pictures of them.

The Phoebe.

Material: Real bird, if possible; good picture.

Length: Six and one-half to seven inches.

Color: Deep olive brown above, outer edges of some of tail feathers whitish beneath dingy yellowish white; an erectile crest, straight black bill.

Food: Insects. A great fly catcher.

Habits: The phœbe is a very restless bird, tail constantly in motion; very fond of bathing. This bird can flash down, taking either a dip or an insect on the wing without pause. Nest made of moss, mud and grass; placed on a horizontal bridge beam or timber supporting porch or shed. This bird should not be allowed to nest near windows, as its rather spongy nest becomes infested with bird lice.

Eggs: Four to five; spotted on a pure white ground.

Call: "Phœbe, phœbe, pewit, phœbee!"

Seen from April to October.

The Golden-Crowned Kinglet.

Recognition: Name from good picture.

Size: About four inches in length, not much larger than the humming bird.

Color: A greenish-gray; crown spot flame colored, edged with yellow enclosed by black line; whitish line over eye.

Although a small bird it has heat enough in its little body to withstand very cold weather. It is a very active, sociable little fellow; found in pine and spruce groves.

Nest: Rather large, made of hair, moss, etc., lined with feathers; generally placed on the high bough of an evergreen tree.

Eggs: White, thickly speckled, often ten in number, and sometimes placed in two layers.

Call: A shrill, wiry Tzee-tzee-tzee-tzee-ti-ti-ter-ti-ti-ti-ti.

A winter resident from November to April.

The White-eyed Vireo.

Recognition and name from picture.

Size: Five inches in length.

Color: Olive green, marked with white; iris white.

Bill short, strong and straight, notched and hooked at tip.

Nest made of twigs, grass, fibres of dry weeds, scraps of hornets' nests and nearly always a piece of newspaper, hence called "the little politician." The vireo nests in a bushy tangle, the nest hanging from a branch like an inverted cone. Eggs usually four, with brown spots on large end.

Call: Chick-a-rer-chick.

Song: Colloquial; strong expression and variable intonation; scolds, argues, jumbles snatches of the songs of other birds, and seems to wish to drown their singing with his clatter.

Stays with us from May until September.

The Goldfinch.

Material: A live bird or stuffed specimen. Good pictures.

Color: Male, bright yellow body, head, wings and tail black; female a brownish olive above, yellowish white beneath. During the winter months the plumage is drab and brown.

Goldfinches live in companies, their flight is a series of wavy undulations. They love a spot overgrown with thistles and tall, stalky wild flowers; they lunch on the fluffy seeds of thistle blossoms, peck at the golden rod, swing and sway on the top of mullein, milkweed and sunflower stalks. Song, a wild, sweet, canary-like warbling.

Call: "Ker-chee-chee-chee! whew-e, whew-e!"

In July Mr. and Mrs. Goldfinch select a tall maple tree near a weedy field and in it build their nest of grass, moss and vegetable fibre. Eggs four to six, blue-white, generally unmarked. When the young are in the nest the parent birds have a rather plaintive cry of "Ba bee-ba bee, ba be-e." The goldfinch is a permanent resident.

The Owl.

Material: Stuffed specimen. Good picture.

Speak of comparative size, color, shape of head, large eyes, soft feathers; legs and feet feathered. More intensive study of the owl in third year.

The Gull.

Material: Good picture.

Size: Vary; some large as the duck, others small as a pigeon.

Color: Varies according to age, color and sex, but in general is white, mixed with grey, slate color, brown or black. Like all sea birds their bodies are filled with air cells, so that they are very light on wing and float easily; they have a very large oil sack in order that they may moisten their feathers and keep the wet from their bodies.

Food: The gull is a very greedy bird, food consists mostly of fish and mollusks, robs weaker birds, will sometimes even snatch food from the pelican, a much larger bird.

The gull has the foot of a swimmer—three toes connected by a web and one short toe, that is not so joined; the foot is weak as it is little used.

Nest: A hollow in the ground lined with a little grass or seaweed. Eggs two or three in number, a dirty white ground, marked with brown and black spots.

The gull flies far out to sea; it is very strong of wing.

The Turkey.

Material: Good picture.

Recognition, name. Largest of the gallinaceous birds.

Color: Black, bright green, bronze, according to the light. Mrs. Turkey more plain in her dress, generally a dark gray.

The head is bare, the neck wattled, the bill is short, strong and curved; that of the male surmounted with a conical fleshy carbuncle, sometimes erected, sometimes elongated and pendulous. A curious tuft of long hair springs from the base of the neck and hangs down on the breast. The tail is broad and rounded, capable of being erected and spread out; with tail erect and wings rubbing on the ground, the male bird struts about proudly uttering his authoritive Gobble! gobble! gobble.

Food: All kinds of grain, seeds, fruit, grass and insects—helps the farmer by eating the grasshoppers and slugs that destroy grain and vegetables.

The turkey is a good walker, can fly to the top of a tall tree, but cannot sustain flight for any great length of time. The turkey hen is a very careful mother. She makes her nest of a few dry leaves, on the ground, in a secluded spot, generally beside a log or in a fallen leafy tree top, but always in a dry place. Eggs from nine to fifteen in number, larger than the ducks egg, one end pointed; egg closely spotted with brown. Mrs. Turkey covers her eggs with leaves to hide them from the hungry crow; each day she travels to her nest by a new route to mislead any enemy who may be on the watch.

The baby turkeys wear a coat of soft down; they run about as soon as they come from the shell, but for fourteen days the mother bird keeps them in dry and sheltered places until their feathers are grown, covering them with her wings when the dew is falling or during a fall of rain. When the babies are two weeks old they can fly a little. Mrs. Turkey then coaxes them to a low perch and they pass the night under her wings. In about six weeks their wings are strong enough to carry them to the top of a high fence or among the branches of a tall tree.

The mother bird talks to her babies with a soft crooning note when all is well, but when danger comes her sharp "Quit! Quit!" bids them seek shelter. Ordinarily Mrs. Turkey is very shy and timid, but if danger threatens her young brood she will fight the enemy, even though it be a dog, until every feather is torn from her body.

The eggs and the flesh of the turkey are used for food, feathers used for making feather dusters.

Comparisons with goose:

Turkey.	*Goose.*
Head bare; bill, short, strong curved; legs, dark colored, covered with false scales; feathers, large, coarse; body, flat; eggs, spotted; foot, formed for scratching; movements, walks and flies.	Head, covered with feathers; bill, long, flat, spoon-shaped; legs, light orange, covered with parchment-like skin; feathers, smaller, soft, downy; body, flat; eggs, large, white; foot, made for swimming; movements, waddles and swims.

THIRD YEAR. FALL TERM.

One thirty minute lesson; three twenty minute lessons.

First Week—Woodpecker, housefly, wild carrot.
Second Week—Owl, mosquito, gladiolus, hydrangea, Jamestown weed.
Third Week—Bluejay, coreopsis, chickweed, dragon fly.
Fourth Week—Crow, beetle, sumach, melons.
Fifth Week—Goldfinch, butterfly, maple.
Sixth Week—Nuthatch, caterpillars, elm, dahlia.
Seventh Week—Chickadee, oak, hickory, birch.
Eighth Week—English sparrow, tube rose.
Ninth Week—Eagle, pine, burdock.
Tenth Week—Snipe, poplar, burrs, stick-tights.
Eleventh Week—Ostrich, pumpkins, cranberries.
Twelfth Week—Wolf, fox, horse-chestnut.
Thirteenth Week—Snakes, turtles, ailanthus.
Fourteenth Week—Goldfish, minnows.
Fifteenth Week—Lobster.
Sixteenth Week—Crab, cedar.

Seventeenth Week—Review birds.
Eighteenth Week—Review other animals.
Nineteenth Week—Review nuts, stone fruit, pods.
Twentieth Week—Review flowers.

THIRD YEAR. FALL TERM.

BIRDS

The Woodpecker

Recognition and name from picture or stuffed specimen.

Size: 8½ to 9¾ inches, a little smaller than the robin.

Plumage: Very showy; head, neck and throat crimson; breast and underneath white; back, black and white; wings and tail, blue black, with broad white band on wings, conspicuous in flight.

Call: A noisy gutteral rattle, "Ker-r-ruck! Ker-r-ruck!" (like a tree toad's call).

Food: Grubs, beetles, berries, fruits, nuts.

Feet: Made for clinging, two toes with sharp claws in front and two behind.

Bill: Long and straight—serves as a pick-axe, augur, chisel and hammer.

Motions: Flies swiftly, runs in oblique lines up the tree trunks, tapping with his bill to discover hidden insects, clings to the bark of trees, head downward.

Uses: Rids trees of insects which hide beneath bark; points out decayed wood by selecting spot for nest.

Habits: Nest usually in a partly decayed tree, sawdust and chips make a soft lining. The stiff tail feathers help to hold the bird on the tree when working. Mr. and Mrs. Woodpecker take turns in hollowing out nest. Eggs glossy white, four to six in number. The parent birds feed the young by placing their slender beaks in the mouths of the nestlings and regurgitating the partly softened food from their own crops.

The woodpecker has a wonderful tongue, which he can push far out beyond the end of his bill; it is furnished with little fine points, like the barb of a fish hook; if the insect is too small to catch this way he has a sticky fluid that flies to the end of his tongue and glues the game to it.

The Owl.

Children have seen stuffed specimens and pictures in 2B grade.

Size: Varies from the size of a pigeon to that of a small turkey. Female the larger.

Color: Varies with species; may be tawny, streaked, mottled, grayish, rusty red, pure white, or white barred and spotted with brown or black.

Plumage: Very loose; adds to the apparent size of the body and head, consists of very soft downy feathers in some species, extending from the bill to the claws.

Call: Varies in species; generally Hoo-hoo-hoo-Waugh hoo. Some owls seem to growl, bark, mew and hiss.

Food: Ranges from hares, fawns, poultry, to reptiles, birds, mice, rats, frogs and insects. The owl flies at night, taking his prey by surprise; he swallows small animals whole and separates the larger kind into a few portions, casts up bones, feathers, fur and other indigestible parts in hard balls.

Motions: Flits about in the twilight and moonlight. "All the ways of the owl are ways of softness and duskness. His wings are shod with silence, his plumage is shod with down." The eyes of the owl are immovably fixed in their sockets, the joints of the neck are so flexible that the head seems to complete the circle in turning.

Feet: Claws sharp and curved, outer toe reversible at pleasure, so that the toes can be opposed two to two to give greater security of grasp.

Bill: Small and hooked, half concealed by bristly feathers, which grow at base.

Uses: Destroys many mice, English sparrows, grasshoppers, crickets and cockchafers.

Habits: Nests in tree trunks, barns, towers and belfries. Eggs round and generally a dirty white color, three to six in the smaller species; the great horned owl lays two eggs; the snowy owl from five to ten at long intervals, so that when the last egg is deposited the first bird is ready for flight. The hearing of the owl is very acute, the ears are large and furnished with an external conch found in no other bird; this conch is surrounded by feathers in a conical form, which serves as an ear trumpet. In some species the ear is furnished with a remarkable lid, which the bird has the power of opening or shutting at pleasure. The disks of feathers which surround the great eyes radiate outward and serve to collect the rays of light and throw them on the pupil, which renders them unable to stand the glare of sunlight.

The Blue Jay.

Size: Ten to twelve inches, larger than robin.

Color: Blue above, black necklace, a few black feathers on back, underparts dusky white. Wing coverts and tail bright blue, striped with black; many feathers edged with white. Head crested.

Call: "Jay! Jay! Jay!" harsh screams, shrieks, unmusical calls; seems to wish to drown the songs of more sweet-voiced singers.

Food: Nuts, seeds, corn, grasshoppers, caterpillars and beetles.

Feet and bill black.

Use: Destroys some harmful insects.

Habits: Mischievous, destructive, noisy, unsociable and unamiable. Builds bulky nest in a crotch of tree high about our heads. Eggs, four to six, olive gray, with brown spots. Hides nuts and hard seeds in the earth; is cousin to the crow.

The Crow.

Size: Sixteen to seventeen and one-half inches.

Color: Glossy black, shading to violet.

Call: In spring Kar-r-r-er-r; later a loud, harsh Caw! Caw! Caw!

Food: Mice, carrion, eggs, corn, acorns, nuts, frozen apples and sumac berries.

Movements: A fine flyer and a good walker. Crows flap their wings a great deal; they also run and hop along the ground.

Uses: The crow is a scavenger bird.

Feet: Black; four long, strong toes.

Bill: Long, pointed, hard and strong; nostril hidden by tuft of feathers.

Habits: The crow is a very sociable bird, generally seen in large flocks. In the early spring he frequents freshly plowed land, eating larvæ, field mice and worms, later preys on the young fledglings of the poultry yard. Nests of song birds and of domestic fowl are robbed, eggs crushed and eaten and the young ones devoured. Nest large and straggling, made of sticks and generally placed on the top of an evergreen tree. Eggs, four to seven, a greenish ground, spotted with brown.

The crow is a coward, with a hoarse voice and disagreeable manners, added to an offensive personality. A Uriah Heap in feathers.

The Goldfinch.—See 2B Grade.

The Nuthatch.

Size: From five to six inches.

Color: Slate with black head.

Plumage: Compact and smooth.

Call: "Quank, quank, quank."

Food: Spider's eggs, larvæ, nuts and oily seeds. The name is derived from their habit of wedging nuts, usually beech nuts, in the bark of trees and then hatcheting them open. They knock off decayed or loose pieces of bark to obtain the grubs or larvæ hidden beneath.

Feet: Lead brown in color, made for clinging.

Bill: Strong, straight, longer than head.

Motions: The nuthatch is our bird acrobat, walking like a fly, head downward, and performing various tortuous feats while he searches for food.

Habits: This bird appears to migrate in spring and return in autumn. but in reality only retreats to the woodland to raise his family. Nests in tree holes, which he extricates with great patience, lining with moss and feathers. Eggs often ten in number, speckled with red and lilac.

The Chickadee.

Size: About five and one-half inches in length.

Color: Back gray with a brownish tinge; crown, nape and throat black; sides of head, white; underpart, white; wings and tail, gray with white edgings.

Song: Cheerful, conversational, "Chickadee-dee-dee-dee," varied with "Day-day-day!" and a whistled "Pe we pe we."

Food: Adapts himself to circumstances; when insects fail eats seeds, berries, cone kernels and crumbs.

Uses: Always cheery and lovable, brightens up many a winter day with his jovial note. There is no bird that compares with the chickadee in destroying the female canker worm and her eggs; we should therefore attract them around our homes by hanging a piece of fat pork or a raw bone on a nearby tree.

Habits: Nest made of all sorts of soft material—wool, fur, feathers and hair placed in holes in tree stumps. Eggs, six to eight in number, white, thickly sprinkled with brown.

English Sparrow.

(Has been introduced in First Year.)

Size: About six inches in length.

Color: Ashy, with black stripes on back; wings have white bar, bordered by fine black line; throat and breast black; underneath grayish white.

Food: Earth worms, insects and their larvæ, grain, fruit.

Motions: Flies, hops, runs, fights, bathes, rolls in dust.

Call: A harsh chirp.

Habits: Very sociable, often congregate in great flocks, very familiar with people. Nest, rough and loosely made of straws, sticks or any material handy. Eggs, four to eight, greenish white, speckled with lavender.

This bird was brought to the United States in the early '50s, an insect eater in England, soon became a grain eater in this climate. Another indictment against the sparrow is that it drives away our native birds from their nesting places; amongst those thus molested are the bluebirds, martins, swallows, orioles, vireos and many others.

The American Eagle.

Size: Length, three feet; wing spread, seven to eight feet. Female the larger.

Color: Neck, head feathers and tail pure white in adults, brown in young, rest of plumage a dusky brown. Legs feathered only half way down.

Food: The eagle prefers a fish diet, but will eat any kind of animal food, even carrion; often obtains its food by robbing the fish hawk. Young lambs, kids, ducks, geese, gulls and coots are favorite morsels when fish fail. It is said that wounded birds suit this unsportsmanlike hunter best; these are picked clean of feathers before the flesh is torn from the bones.

Motions: Flies very swiftly, soaring in great spirals to a dizzy height, as they swoop earthward to pounce upon their prey the tops of the trees over which they pass sway in the current of air they create.

Call: "Cac-cac-cac," like a wild laugh.

Feet: Yellow, uncovered claws called talons are curved, sharp and strong.

Bill: Yellow and slightly hooked.

Nest: Called eyrie. A bulky platform of sticks and litter such as large pieces of turf, rank weeds and moss, measures about six feet across and is often three feet deep; placed either in top of tall pine tree or on rocky ledges and occupied year after year. Eggs two or three in number, of a dull white color, two and a half to three inches in length and equally rounded at the ends.

It takes three years to perfect the plumage; feathers of the first year are dark brown, the birds are called black eagles, the second year they are known as gray eagles, the third year they come into possession of their "bald" heads and white tails. The baby eagles are called eaglets, at first covered with a thick, whitish cotton-like down.

The distinguishing feature of the bald eagle is the unfeathered ankles and claws.

The eagle is very long lived, has a majestic appearance, very keen sight, great strength and a piercing voice that can be heard above a wild storm.

The Snipe.

Size: About eleven inches in length.

Color: A dark brown mixed with a brownish buff color, three pale brown streaks along the head, neck and breast, rust color mottled with black, white underneath.

Call: "Kuk-kuk-kuk-kuk-kuk!" In flight makes a drumming noise.

Food: Worms, grasshoppers and other insects. It is said to eat twice its own weight of worms in twelve hours.

Motions: Flies in a zig-zag manner but very swiftly, rises upward by erratic but graceful spirals.

Bill: About three inches long, soft and very sensitive; in the living bird smooth and shiny, but after death becomes pitted by drying, resembling the end of a thimble.

The eyes are large and placed very far back in the head, enabling it to guard against danger when its bill is plunged into the mud from which it gets its food.

The snipe has a very short tail; its feeding place is low and swampy; a long tail would be likely to get wet and impede its flight.

Nest: A little dry grass in a depression in the ground, or sometimes in a tuft of rushes. Eggs, four in number, pale greenish white spotted with brown.

Uses: For food, also destroys many insects.

The Ostrich.

Size: The ostrich is the largest living bird, being from six to eight feet high; an adult male weighs from two to three hundred pounds.

Color: The general plumage, which is lax and flexible, is glossy black in the male, dark gray in the female and young, with a slight sprinkling of white feathers; the long plumes of the wings and tail are white, occasionally marked with black. Head small, covered with spare, short feathers; neck very long, almost bare of feathers. Neck and head resembles that of camel.

The body is oval in shape. On the breast there is a pad of hard skin, upon which the bird's body rests when sitting. The wings are short and weak, the breastbone has no keel.

Food: Mostly vegetable, tops of various plants, corn and grass; very greedy birds. The ostrich swallows small stones and pieces of metal to aid in digesting its food. The ostrich is capable of existing for a long time without water.

Motions: The ostrich is a great runner, but is not able to fly; in running the wings move like arms and assist in the flight; it runs in large curves.

Feet: Are padded like those of the camel, so that the bird travels easily over the loose sand. Each foot is provided with two toes, the inner one being the larger; it is about seven inches in length, its claw is hooflike; the outer toe has no claw. The leg muscles are so strong that it is able to kill a dog or a leopard with one blow.

Bill: Of moderate length, broad, flattened, rounded at the tip, the mandibles are flexible.

Calls: The voice of the ostrich is deep and hollow, somewhat like the roar of a lion.

Uses: Feathers, very handsome, much used for ornament. Eggs and flesh of young used for food; egg shells strong, used for drinking cups.

Nest: Eggs are deposited on end in the sand, several birds using the same nest. In day time the eggs are kept warm by the sun's rays, but at night are covered by the birds. A nest sometimes contains as many as sixty eggs, around it are generally to be found eggs scattered in the sand; it is supposed that these are so placed for the purpose of providing food for the baby ostriches. Each egg is equal to about two dozen ordinary hen's eggs.

Ostriches travel in flocks. The eyes of the ostrich are large and the lids are provided with lashes. It can descry objects at a great distance in the open desert. The strength of the ostrich is such that it can carry two men on its back.

In the wild state the ostrich is hunted by horsemen who intercept the bird at a certain point in the circle which its running describes. It is often killed by men who envelop themselves in ostrich skins, imitate the manners of the ostrich and are thus able to approach them so closely that they are able to kill one after another with their poisoned arrows.

The ostrich is easily tamed, and is raised in confinement for the sake of its beautiful feathers.

THIRD YEAR. FALL TERM.

OTHER ANIMALS

The Wolf.

Material: Pictures of wolves, singly and in packs. Recall story of Red Riding Hood.

Covering: Fur, thick and coarse, especially upon the neck and shoulders, generally yellow or gray in color.

Food: Wolves are flesh eaters; very fond of sheep, of the young of the buffalo and other large animals; will also kill and eat their cousins, the foxes; when very hungry will attack man.

Uses: The wolf is a scavenger. The skin is used for making parchment and for drumheads. The fur is used for making rugs and muffs.

Movements and Habits: Not very swift nor very strong, but have great powers of endurance. Generally hunt in packs. Will attack and devour almost any animal, wild or domestic. Attack large animals by springing at their throats. The wolf walks upon his toes only; he hunts at night, follows prey by sense of smell. He is a very cautious animal. Lives to the age of fifteen or twenty years.

Home: Den or burrow, generally taken from some other animal; the dwellings of the jackal, badger, fox and bear are often appropriated by Mr. Wolf.

The wolf's eyes are smaller, higher and more oblique than the dog's; the ears are smaller and more open; the hind quarters are lower; the tail hangs closely and nearly straight; the two middle claws of each foot are close together; the muzzle is more pointed, the edges of the lips are black.

The Fox.

Material: Pictures of foxes in characteristic attitudes.

Covering: A soft fur, usually reddish-brown, used for trimmings and for making ladies' muffs and neck wear.

Food: The fox feeds upon poultry, geese, partridge, rabbits, field mice, frogs, wild honey and grapes.

Movements: Runs very fast, makes sudden turns to double on his pursuers, creeps and slinks after his prey, is a good swimmer. The cubs (young foxes) are very playful.

Home: The fox lives mostly in an underground burrow, which he either digs for himself or seizes from a rabbit. He generally has several ways of entering his den.

Habits: The fox is sly and cunning and fond of solitude. When hunted he uses every trick to escape, even feigning death, but at the last extremity will fight for his life. The fox searches for his food at night; his cry is a yelp or low bark. When the babies are small Mr. Fox provides food for the whole family. It takes a fox two years to reach his full growth; he sometimes reaches the age of fourteen years. The tail is bushy and tipped with white; it is called the brush; in cold weather the fox wraps it round his face for warmth.

The fox's head is rounder and the muzzle is more pointed than that of the dog. The iris of the eyes of the fox closes in a narrow slit; that of the dog in a circular manner. The fox's ears are erect and triangular, dog's ears usually hang. The fox has a very disagreeable odor, so strong that the hounds can follow by it at a considerable distance.

Snakes.

Material: Pictures of snakes in characteristic attitudes; cast skins, rattles, etc.

General Description: Body long, cylindrical in shape; head continuous with body; eyes without true eyelids, but covered with a clear and transparent skin; no visible external ear; mouth generally very wide and easily stretched; nostrils situated at the side of the front part of the mouth.

Striking characteristics: Power of distending jaw so that it is able to swallow a large animal. When the snake's jacket of scales gets old and worn or too small, a new jacket begins to grow under the old, which then becomes loose and at last splits and peels off. When the mother snake scents danger she hisses in a peculiar manner, and the babies all glide down her throat; when the danger is past she throws her jaw bone out of joint and gives them a chance to slip into the grass again.

Covering: The snake's body is covered with scales, but over these scales a skin is stretched; this skin is often shed. When the snake is casting the skin it is dull and refuses to eat.

Food: Generally of living animals; prey upon frogs, mice, rats and birds. Food not masticated, but swallowed entire. The teeth, which are numerous and inclined backward, aid the snake in catching and swallowing food. Some snakes pursue prey, fascinate it and then crush or poison it.

Uses: Savages use the poison from the snake's fangs to tip their arrows; non-poisonous snakes kill injurious animals.

Movements: Creeps and glides by bending body; can swim, raises body almost erect when about to spring on prey.

Homes: Snakes are usually found in long, coarse grass. In hot weather they move about very quickly and are often seen trailing along dusty roads. When cold weather comes the snake lies torpid in holes or marshes. Usually a large number coil together in one spot. Some snakes live in water.

Habits: In general the snake is timid, prefers to escape rather than fight. When about to attack the body is coiled and the head raised. Snakes sometimes burrow with the prairie dog; they climb trees to rob birds' nests and kill the young; sometimes suspend themselves by tail.

The snake is a cold-blooded animal, it grows slowly; in general its color is like its surroundings. The snake's tongue is forked at the tip and is capable of being withdrawn into a sort of sheath, it greatly assists the animal in the act of swallowing. The snake hisses when angry. It uses its tongue as a feeler. The young are produced from long, white, soft-shelled eggs which are deposited in some sheltered place. The heat of the sun and air is sufficient to hatch them.

The Turtle.

Material: Live turtle in vivarium—combs, knife handles, etc., made of shell.

Striking characteristics: Large, prominent eyes, the lids of which open vertically; body enclosed within case, the upper part of which is rounded, the lower part flat. This case is very strong, the parts are joined together at the edges but allows the head, neck and limbs to be protruded or withdrawn at pleasure.

Covering: The soft body, which has an inner jointed skeleton, is protected by a hard, thick shell; the head and legs are further protected by extra shell like scales.

Food: Principally sea vegetables—sea weed, grass and wrack. Some varieties feed on shell fish. The small, flat jaws of the turtle are covered with a horny beak, the lower portion of which shuts into the upper. This enables him to snap off a portion of food as if by means of a pair of scissors.

Uses: The flesh and eggs are used for food; from the eggs an oil is obtained which is used as a dressing for food and also for illuminating purposes. The large shells of sea turtles are used as shields, small boats, children's baths, etc.; from the shell of the Hawkskill Turtle handles for penknives and razors, inlay for cabinet work, combs and many fancy articles are made.

Movements: The turtle swims gracefully; but is very awkward on land. It can swim under water for a long time.

Homes: Turtles frequent the sea, living partly on land and partly in the water.

Habits: Turtles, at the approach of cold weather, retreat to the bottom of ponds where, buried in the mud, they hibernate. The turtle deposits its eggs in holes in the sand of the beach; these holes are hollowed out at night; great precautions are taken lest they should be discovered. The eggs are hatched by the heat of the sun; the young are able at once to make for the nearest water and provide their own food.

Turtles live to a great age, their hard shells protect them from all enemies except man. When the turtle is turned over on his back he is helpless, being unable to get on his feet again.

Goldfish.

Material: Several fish kept in glass globe.

Striking Characteristics: Scaly, cold blooded animals, limbs not jointed, smooth edged scales. Eyes have no eyelids. Gills opening on side of head to breathe the air in the water.

Covering: Scales—reddish yellow in color.

Food: What it can procure in the water.

Movements: Swims, darts.

Home: In fresh water.

Habits: Lay their eggs, in sticky masses, in the water. Swim very fast, the body being long, thin and flexible. The goldfish swims principally by means of tail which it uses like an oar; the use of the fins is to balance the body and to steer with. It breathes through its gills; sometimes the fish may be seen coming to the surface of the globe, when the air in the water is exhausted; it then breathes in audible gulps.

Minnow.

Material: Several fish kept in glass globe.

Rarely more than three inches in length; of a rounder form than the goldfish.

The head and back are of a dusky olive color, the sides lighter and mottled, underneath pink in summer fading to white in winter.

Minnows love a stream with a pebbly bottom; they swim in shoals and will eat any soft animal or vegetable matter. They should not be kept in the same stream with trout as they destroy the spawn of both trout and salmon.

The Lobster.

Material: Good pictures, claws—live specimen.

Striking Characteristics: Four pair of legs. Two large and powerful claws—strong enough to pinch off a man's finger—will not let go, would rather lose claw—one claw has blunt teeth for crushing shells, etc., the other has sharp teeth for holding prey and pinching; often loses claws in fight, new ones grow in same place. A sudden noise, like thunder, will make them shed claws. Fishermen put piece of wood in claws to prevent fighting after capture. Turns red when boiled.

Covering: The lobster is protected by a shell which it sheds once each year.

Food: Entirely animal-meat, mussels, clams and oysters.

Use: The lobster is used for food, except when it is moulting.

Movements: Can crawl slowly; burrows in the mud.

Habits: The lobster can breathe under water; it is very quarrelsome; can not resist a basket or trap baited with meat. Shiny substances like oyster shells or bottles also attract them. Mrs. Lobster glues her round eggs together with a sticky fluid and attaches them to her body. The babies stay near the mother for protection.

The Crab.

Material: Live specimen.

Striking Characteristics: Large, prominent eyes, compound, movable, set on stems. Two pairs of antennæ, organs of touch and hearing. Tail which fits into a groove under body. Legs, ten in number, are hinge-like, the first pair have pincer-like claws with which it catches prey; the last pair are flattened into paddles for swimming. The side claws are thin and sharp to dig and to walk with. Sometimes the crab loses a claw in moulting or fighting; can detach them when caught by claws. Claws grow again.

Covering: A hard, almost stony, shell with sharp points on edge for protection. Both head and throat covered with a shield of same material as shell. Molts often, new shell very soft, crab hides until new shell hardens.

Food: Sand fleas, water animals, other crabs, fish, mollusks, etc.

Uses: Scavengers, used as food.

Movements: Very quick, active. Can swim or walk backwards, forwards, sideways without turning. Can run fast.

Homes: Live in the sea, in fresh water and some on land. Found along rocky shore. Bury themselves in the sand.

Habits: Pounces on prey—tears it to pieces with claws. A great fighter, kills and eats other crabs. Breathe under water by means of gills.

The young are hatched from eggs laid in water. At first little round swimming animals, with neither legs nor claws. They moult very frequently, the covering of the feet and claws being thrown off with the shell.

Conversation Lessons in the First Year

By Ella K. Jelliffe, P. S. 70, Brooklyn.

THE SQUIRREL

HOW many boys have ever seen a squirrel? Oh, I thought you all must have seen one. Tell me what he looked like, Eddie. He was gray, was he, and had a long, bushy tail? Well, he must have been a handsome little fellow. What did yours look like, Archie? Red? Yes. I've seen a red squirrel, too, and mine could fly—could your's Archie? You only saw him climb a tree? Well, I heard of a red squirrel that climbed a tall hickory tree to get away from a dog that was running after him. The man that owned the dog climbed the tree just to see what the squirrel would do. As the man drew near, the squirrel ran to the topmost branch and finally leaped into the air, and with a quick motion of his tail and legs descended quite slowly to the ground and then ran away to another tree.

Robbie, where did you see a squirrel? In the Park? What was he doing? Rustling through the leaves—what for, I wonder? You think he was looking for nuts? Why, what would he want nuts for? Oh! he eats them, does he? He must have sharp teeth, then. Do you know what a squirrel is called because of these teeth of his? Well, I will tell you—he is called a *gnawer*, because he has gnawing teeth; and there is a peculiar thing about a squirrel's teeth that I don't believe you know—it is this, they are always growing.

Have you ever seen a squirrel carrying nuts, Charlie? Yes? How did he do it? He had pockets in his cheeks? Well, that is curious; I think he must have been the kind of squirrel we call a chipmunk. Was he striped? The red and gray squirrels haven't any pockets in their cheeks, and when they carry nuts to their nests in the top branches of trees, they carry them in their teeth.

Where do they put the nuts and acorns they gather—are they such greedy little fellows that they eat all they can find at one meal? Who can tell me? Well, John, you tell me, please. They store them away in the hollows of trees? Yes, that is true—aren't they wise little creatures? Well, Tommy, what is it you wish to tell us? They dig holes in the ground, too, and bury their nuts, do they? Well, that is wonderful! And do they remember where they put them? Yes, always, and even when the snow covers the ground, they scratch it away with their curved claws and get their food.

Boys, have you ever watched a squirrel eating? Who will tell me about it? Well, Oscar, tell me. He takes the nut in his forepaws and then seats himself, lifts the nut to his mouth and bites off the tip with his front teeth, that are just like a chisel. He breaks away the shell, carefully peels the dry, brown husk away from the kernel of the nut and then eats it with a very satisfied air.

Eddie, tell me what you think of the squirrel. You think he is a cunning little thing? So do I. And what else, Tommy? He's beautiful—his fur is so soft. Yes, I think he is beautiful, too.

Is he quick or slow in his movements, Maurice? Oh! yes, very quick and active.

Do you think he is a clean little fellow, Benny? You don't know—well, he is, clean and neat as he can be.

Has any boy ever seen his nest? Well, you will some day, when you can climb high enough. It is nearly round and is made of leaves, moss, grass, and such things woven together most artistically and in such a way that the rain can't wet it; and it is fastened to the branch so tightly that the wind can't blow it down.

I want you all to go somewhere this very week where you can see a squirrel—go to a Park or to the "Zoo," or to the country, if you can, and find out something new about a squirrel for me and tell me next week. If there are any of you who have not seen a squirrel by next Friday, I'll take you where you can see some on Saturday.

Now, before we stop talking about this pretty little creature, I'm going to pass some pictures around. I have found pictures of red squirrels, gray squirrels, black squirrels, flying squirrels, common squirrels. I bought some and I cut some out of old books and magazines. Please draw a picture of the one I give you and take it home to show your mother.

Conversation on Pictures

Material:

a. Large pictures belonging to the class room.

b. Pictures brought for the purpose by the teacher or the pupils, or both.

c. Perry pictures, or similar ones provided by the teachers; different sizes may be procured, very little ones at very small cost.

d. Pictures cut from magazines or papers by teacher and pupils.

e. Pictures in readers—the primer used in the grade, supplementary readers borrowed from other teachers or from the principal.

f. Picture postals and photographs.

In the beginning it is desirable that the teacher should select the picture to be talked about, so that the choice may be artistic, the subject definite, and the study not too vague or complex, but carrying in its simplicity some sweet thought or some beauty of coloring or of expression. By discussing these points in the picture the pupil may be led towards an artistic sense, and when it comes his turn to choose pictures and bring them into the class, he may display a little care in the selection—he may, at least, say, with the personal element so strong in children: "Teacher will like this one because the colors are so pretty (or delicate); she will not like that one because it's cruel or ugly." In the beginning, also, the teacher must draw forth the conversation by skillful questioning, which questioning must embrace all the class all the time. By this I do not mean that the pupils are to answer in concert; on the contrary, they are to be taught, and that constantly, to be considerate of one another, politely yielding to one another in replying. But the questions are to be directed to first one, then another, and not in regular order, while those who are not answering are to be included by the interested and kindly glance of the teacher's eye, so that each is in expectant attention, thinking he may be called on next. Dull and backward scholars should be encouraged to say something, and even helped in the saying of it. Bright pupils should be kept busy by giving them harder questions than the others, by promising to let them tell the whole story, by and bye. *They should not be snubbed.* Make allies of them, not aliens. In fact, this is a lesson in which the teacher's tact, her own interest in the subject, her sympathy with the pupils, are to have full play. It is to be carried on in a lively, enthusiastic manner; therefore it should be preceded by a quiet lesson—perhaps a writing lesson—and followed by a complete change, such as reading to the pupils by the teacher or by recess. Following are the names of a few pictures that may be used to good advantage in this grade, and a few questions upon them. It is to be remembered that the lesson is to be *A Conversation Lesson.* The children are to be encouraged to talk, to express themselves clearly, not necessarily correctly (the teacher might make mental notes of common errors, jot them down afterwards and make a special lesson of them some other time); many of the flagrant errors should be casually corrected as she repeats the question, embodying the pupil's answer or remark, not with undue or significant emphasis, but just in passing, quietly and kindly, and unconsciously the pupils will learn better English. The main idea is to get the little ones to talk, to ask questions, to reply when spoken to, to see things, and, having seen, to express the thought. Towards the close of the term it might be well to have one or more of the pupils ask the class questions about the pictures—in fact, conduct the lesson. It might, perhaps, be wholesome for us teachers "to see ourselves as others see us" once in awhile.

Pictures worthy to be talked about:

1. Rembrandt's "The Cloth Makers."
3. Reynold's "Strawberry Girl."
3. Reynolds's "Little Samuel."
4. Bonheur's "An Old Monarch."
5. Landseer's "A Distinguished Member of the Humane Society."
6. Dolci's "Saint Cecelia."
7. Van Dyck's "Children of Charles I."
8. A picture of some great cathedral or old abbey.
9. A portrait of some celebrated man.
10. Pictures in "The Baldwin Primer."

In presenting "The Cloth Makers" ask the children, first, to tell what they see. Educe that it is a picture of men—the number (one servant)—their position—their apparel—their occupation ("casting up the accounts of the guild for the year to find the gains and losses")—their probable nationality—their looks of interest, even eagerness (how shown?)—which one is talking? Which one is most eager? Do they look like good men, kind men, strong men? Who painted the picture? When? (1661) or over two hundred years ago, when he (Rembrandt) was an old man (62). The picture now hangs in the Ryks Museum in Amsterdam.

Reynolds's "Strawberry Girl," sweet little strawberry girl, looking at us so slyly with her turned up apron and cute, conical basket. Where is she standing? Where is she going? Or has she already picked her strawberries? Reason for this decision? Her hair and headgear, her apron, bib, her hands, why held up that way? Is she pretty? Does she look happy, healthy? How old do you think she is? Have you ever picked strawberries—eaten them? How do they grow? Do our strawberries come in baskets like her's? Do you like her's better than ours—why? Do you wear aprons or caps like her's? Do you think she is a little American girl? Would you like to know who painted this picture, and that he loved little children and often played with them so that they liked him, too? He lived and died more than a hundred years ago in England, far across the sea from us, and it would be interesting for the children to look for other pictures of his. "Angel Heads" (five views of the little daughter of Lord Gordon, leader of the Gordon riots), "The Babes in the Woods" (two pictures of a boy from the street who had been brought in to sit for the artist, and who was tired and fell asleep in a graceful attitude; shortly afterward the boy changed his altitude to one even more attractive—the artist sketched him in both positions), "Innocence," "Mrs. Siddons," etc., etc.

"Little Samuel." Tell the Bible story, I. Samuel, second and third chapters. Talk of the attitude of the child, his age, his look, his garment, his history—what he grew to be—a *real boy,* though he lived more than 3,000 years ago—the painter, etc. And so of the other pictures, talk of all the salient yet simple points that a child would notice, not insisting, in these studies of art, upon all the little details that Pestalozzi demanded of his pupils in order to cultivate their powers of observation, for these lessons are not primarily object lessons, but "conversations," and happy are we, as teachers, if in addition to interest and conversational effort we implant a germ of truth or of beauty as we talk to and with the children.

Conversation Lessons on the Personal Experiences and the Personal Habits of the Pupils

In personal experiences there lies a most fruitful field for talk. One would almost be tempted to say, don't dwell too much upon this theme, for it tends to the cultivation of egotism and adds to the stream of small talk so current in the world—personal talk not often interesting *per se* except to the one most concerned. However, not to be cynical, one must take a sane and kindly interest in others, and so we gather up our personal experiences and contribute them to the common good. Such simple experiences as:

"A Day at the Park."
"My Visit to the Circus."
"A Trip to the Zoo."
"Christmas Shopping."
"My Birthday."
"A Ride in the Steam Car."
"What I Do on a Rainy Saturday."
"My Books, or Dolls, or Toys."
"Flowers I Love."
"A Visit in the Country."
"My Pets."

It is needless to say that the teacher should know beforehand just what topic she is going to discuss, and should try to put herself in the child's place, to feel over again the child's feelings, to experience his interests, to like the things he likes, to dislike what he dislikes, to be sensitive to little things—to colors, smells, tones of voice, to be pleased easily, to find insignificant things momentous, to expect eagerly, to be bitterly disappointed if things happen that interfere with his plans, etc., etc.

Then, by a kind and earnest mannner and an interested and interesting way of speaking, skillfully draw the children out in conversation as a good hostess would try to do had she a shy, young guest whom she would like to make feel "at home." To begin—plunge in *medias res.* Ask how many have been to a park—to what park—how did *you* go? With whom? When? Tell me what you saw. How long did you stay? Were you tired? What did you like best? Are you going again? How many have been to Prospect Park? To Central Park? To Bronx Park? To any other great Park? Do you like best to go in summer or winter? Why?

Ask these questions of various pupils—trying to meet the varying interests of all, to keep all on the *qui vive* of attention; when the interest flags, teacher, tell a story of a day at the park—a clear, cold day, with snow on the ground and icicles on the trees, sleighbells sounding merrily, people laughing cheerily, skaters skimming over the ice, and in the midst of all this wintry scene, a visit to the conservatory in the park takes us from Greenland to Florida—beautiful growing plants and running water, flowers of every hue, all in readiness for the Easter festival coming slowly but surely

Have a bright pupil tell of a summer day in the park—its sports and scenes. In unconscious imitation of the teacher's animation and interest in her subject, the pupil will do his or her best to make the story bright and good to hear.

And so, although these conversation lessons are not to be altogether the answers to questions, yet, at the beginning of the term, in order to get the conversation started, the teacher must use her ingenuity to question skillfully and in logical sequence. She must be prepared beforehand—even for such a simple lesson as this—she must know about the parks, about the "Zoo" and about all the other "personal experiences" she means to discuss with the children; and then she must use all her tact, all her insight into the feelings of the class members, all the alertness of mind she possesses, to make the lesson as helpful, as sweet and wholesome and kind to each member, as she would, in her own drawing-room at home, to put her guests at ease and make them have a good time. The same courtesy of voice and manner, the same consideration for the backward and shy, the same effort to keep the conversation running smoothly and easily, should be manifested in the school-room as in the drawing-room. Thus will "personal experiences" be lifted to the higher plane of polite society and *gentle mannners* be learned from the lesson, if nothing else.

It is a gracious thing for a teacher to take some of her scholars for a day's outing, and thus add to their "personal experiences" and to their joy.

As to their habits:

a. Manners.
b. Cleanliness.
c. Food, and How to Eat It.

This is necessarily a didactic lesson, but it can be softened by the introduction of stories illustrating the point to be taught or by rhymes to be memorized.

Under the head of Manners the following points, taken from the Syllabus, may be considered: "Conduct at home, at the table, at school, on the street, in public assemblies and in public conveyances."

To tell the children, in a dogmatic way, how they must behave—what they must do and what they must not do—is neither palatable to their minds nor helpful to their manners; but to make them see the beauty of good behavior by a story or illustration taken from life, is efficacious.

A STORY FOR CONDUCT AT HOME.

Have you ever noticed what bright, sweet faces pansies raise toward yours when you bend over them in the garden? They look like happy, contented little people.

A sweet-tempered child is the pansy of the household; when she comes in she brings the sunshine with her. Her mother finds the mists of care rolling off her heart when she hears the chirping of her voice in the hall.

I have seen a whole street car full of people brighten up when a pleasant-faced child came into the car. She might have done nothing except to show in a cheerful, pleasant manner that she was perfectly willing to stand when it was not convenient to have a seat, but I could see the clouds lift from the people's faces. Fathers, who were very tired with the hard work of their offices, began to think of their own little daughters at home.

"Suppose," said one little girl, "that one has a way of getting cross, and being hateful, how is she going to help it?" If you want to be a pansy yourself, the first thing to do is to go to work as if you had it all to do with no one to help. Be like the little pansy in the king's garden, where all the blossoms were finding fault with themselves and everybody else, but she seemed happy and glad. In answer to the king's inquiry for the reason of this, the little flower said: "When you planted the seed out of which I grew you did'nt want a pine, nor an oak, nor an apple tree, nor a vine, nor a rose; you wanted just a little pansy. And now, to please you, I am going to be just the best little pansy that ever I can."

Many little incidents will come up in the class which may form the text for one of these little talks—some little act of consideration, of helpfulness—or the reverse—which the teacher will do well, following Captain Cuttle's advice, "to make a note on't," and then use, later, without mentioning names. Indeed, as we all know, this taking of actual experiences, of real events, is the best possible way of teaching mannners. No set rules of behavior amount to much—it is seizing the tide of affairs at its flood that leads on to success in this respect as in others. So we must be on the alert for little things that we hear and see children say and do to one another—for "the little foxes that spoil the vine"; and for anecdotes and stories in children's books and magazines and in Sunday school journals, as well as for real occurrences of bravery, self-sacrifice, nobility, et al., in the newspapers.

And most of all, do we, as teachers, realize to its full extent the law of imitation in childhood? If so, would we not be more careful of our own manners—careful to keep the frown from our faces, the exasperated tone from our dealings with the children; would we not govern ourselves to be ever patient, courteous, stern, when necessary, but just and kind with the sternness, so that the children would feel that we were truly their friend as well as their teacher? In fact, would we not make our own personality grow from day to day, until it more nearly reached even our own ideal of what is lovely and desirable? For, if it be not too trite to repeat: Example is better than precept.

CONDUCT AT THE TABLE.

Such little rhymes as,

> "With knife, or fork, or napkin ring,
> I must not play, nor must I sing."

and

> "A child should always say what's true,
> And speak when he is spoken to,
> And behave mannerly at table,
> At least as far as he is able."

might form a fittting preface to a talk on table mannners. Then, if children could be shown a reason for the conventional table manners, hygienic reasons in the slow, quiet, abstemious eating with proper use of knives, forks, spoons, etc., and reasons of politeness, or goodness of heart, in helping others to what they need, in taking part in the conversation at the table, but not taking possession of it. All these points, and many others, may be talked about in the class, one suggesting another, and the talks continued from time to time, a little thread of fiction, concerning some imaginary child, and the way she behaves, connecting them. Some discussion about the best kind of food might be introduced here.

CONDUCT AT SCHOOL.

Regularity, punctuality, respectful attention, honorable conduct, faithful work, class spirit, etc. Stories of what regular work will accomplish—fifteen minutes a day for many days enabled Beecher to finish "Taine's History of English Literature." "Constant dropping wears away a stone." An hour's practice daily made a boy a fine musician.

Punctuality—equally important. Tardy scholars do a double wrong—one to themselves and one to those they interrupt. Important links in the chain of education lost by want of puncutality—perhaps the one link upon which all the others in that series depend.

Stories of missing trains, of keeping other people waiting, of the formation of good or bad habits, of making a good or bad reputation are in order.

CONDUCT ON THE STREET.

Quiet, orderly, modest, passing to the right, giving information courteously to strangers, never mimicking the old or afflicted, never blocking the way, etc. Stories of things heard and seen while passing along the streets, not only improper things like rude actions and rough talk but kind, helpful things done for the old or the weak.

Conduct in Public Conveyances and in Public Assemblies will follow naturally from the preceding topic and should be based upon the same law of consideration for others, which forbids loud talking or laughing, personal remarks, interrupting of proceedings by late-coming or early leaving, etc., etc.

CLEANLINESS.

For this subject as well as for that of "Food," it would be well to consult a good book on Hygiene, and adapt its truths to the needs of the little ones.

Blaisdell's, "How to Keep Well," has some good hints; and there are many others to be found among the school text-books, even more suitable for very young children.

If the teacher insists that the children have clean hands, that the boys have their shoes brushed; if the class-room is kept clean as to floor, blackboards, etc., and closets neat and orderly where things can be easily found, all this will form a daily lesson in cleanliness. Then there may be discussions about other cleanly habits—bathing, hair-brushing, teeth-cleaning, etc.

Forbidding the bringing of candy, gum, or other things to eat, to school with the manifest reasons for the prohibition (if the hands are sticky and dirty, the books and paper and clothes of the children become so).

Besides one should eat at table—not in the street, in the cars, or in school—and at regular intervals, if one wishes to keep well; and not too freely of candy, which is often impure.

Advise plenty of bread, not too fresh, and milk, cereals, fruit (peeled), vegetables, meat only once a day, and then well masticated; not too heavy a meal before retiring, or before bathing; never eat with unwashed hands.

Tell the children to be careful to use hands rightly for good, clean service and not in place of handkerchiefs, tooth-picks and the like. If the hands can be trained to mind their own business, which is honest work of some kind, they will be kept out of mischief and become good servants, and the child will grow up morally clean.

This is a plea for manual training—for writing, drawing, cutting, folding, making—and then these busy servants must have their times of rest when they must be still and do nothing, or just hold a book, or play.

It should be easy to get the children to talk about their food—what they have for breakfast, what they like best—and then to tell them what is really best for them. They'll talk of it at home—it may do good.

Also, about cleanliness—they will talk of their bath-time, of the comfortable feeling of clean clothes, of their self-respect when they are dressed for Sunday. Then the teacher can urge them to help their parents by keeping their clothes neat and clean, by learning to care for their bodies and their clothes, themselves, with stories to illustrate the points.

In conclusion, perhaps I may be permitted to quote from "Moral Education," by Edward Howard Griggs:

"Each member of the family is there to grow and be happy and to help all the other members to grow and be happy. To attain these ends we must all obey the following simple conditions: (1) Each must be clean and temperate. It is impossible to live habitually with those who are physically or morally unclean; and temperance is simply the positive side of cleanliness, meaning just proportion in our activities and in our relations to the things that serve us. (2) We must be cheerful and courageous. Sullenness is a deadly blight upon both happiness and helpfulness; and a certain glad willingness to strive and endure is needed for the two aims of the home life. (3) Each must show reasonable truth and justice. No group of people can carry on a common life without depending upon mutual trust and fairness. (4) Justice is not enough; beyond giving each his due, there must be loving helpfulness shown by each member of the family toward all the rest. (5) Finally, if the ends of the home-life are to be attained, each individual must obey that most fundamental law of all joyous and useful living, earnest work.

Children go to school to learn and help their neighbors to learn. To attain this aim the children must come to school (1) promptly and (2) regularly; they must be (3) reasonably quiet and orderly; they must give (4) careful attention, and (5) work earnestly at the school tasks."

Lessons in Nature Study—1 A to 4 A

By Georgiana E. Brown, Principal P. S. 91, Brooklyn.

First Year—The Cat

I WONDER how many little boys and girls have a pussy cat at home? Oh, dear me, how many! Almost all of us have one. I wonder why so many of us keep a pussy cat? "We like pussy." "We like to play with her." "We want her to keep mice away." Yes, I am sure we all like pussy very much, and we like to see her romping and jumping and skipping about and having a good time generally. When you want to have a good time with pussy what do you do? "Roll a ball across the floor." "Whisk something in front of her." "Draw a string before her." What does pussy do then? "Runs after it." Why? "She wants to catch it." Yes, she imagines it is a living thing and wants to catch it. Did you ever see pussy play with mamma's ball of worsted? "Yes." What does pussy do then? "Paws it and rolls it and runs after it." Yes, she makes a great ado about it and chases it from place to place and catches it up in her paws and makes believe she is going to eat it up. Then she leaves it and goes off into a corner and lies down with her nose pointing toward the ball and her eyes intently fixed on it. By and by she steals softly forward step by step as if she expected the ball would take fright and roll away; then she leaps forward and pounces on the ball and begins her play all over again. Why does she step so quietly and cautiously? "She is afraid it might escape her." Yes, she imagines the ball is a living thing, and she thinks it might get away from her. Now some one must have noticed how pussy grasps the ball. What is there in pussy's paws to enable her to hold it? "Claws." Has any little boy or girl ever been scratched by pussy's claws? "Yes." Yes, I think all of us have had a scratch from pussy at some time, and we know her claws are pretty sharp. What does pussy use her claws for? "To catch mice." Yes, she seizes her prey with them—she catches mice and other small animals. What other small animals? "Birds." "Small fowls." When pussy is very hungry she hunts for birds and other harmless little animals that she can carry in her mouth. But you don't like to see pussy pouncing on a poor little bird and carrying it off in her mouth to some quiet corner where she can eat it up, do you? "No." No, pussy should not be so cruel, and she need not be if we are kind to her and give her plenty to eat. If we do this she will just attend to her regular business of frightening the mice and rats and keeping these dreadful little pests away. Now what do you give pussy to eat? "Milk." "Bread." What else? "Meat." Yes, cats eat a great many of the things we eat ourselves, and they are very fond of milk. Have you ever noticed that pussy licks the saucer so clean that you would never know there had been anything in it? Why is this? "She is so fond of the milk." She is fond of it, but how can she lick the saucer so clean? Do you think you could? No, we could not do it at all, but pussy has quite a different sort of a tongue from what we have. Has pussy ever licked your hand? "Oh, yes." How does it feel? "Rough." Ah, yes, very, very rough, and that is because pussy's tongue is covered all over with very, very little tiny hooks, and these hooks just scoop up the milk until there is not a particle left.

Now when pussy wants some milk or something to eat, what does she say—what kind of a sound does she make? "Mews." Yes, she mews and she rubs herself against you and she looks up in your face just as if she wanted to say, "Oh, I would like so much to have some milk." That's pussy's way of talking and telling you what she wants. When you are very kind to pussy and give her plenty to eat, how does she show her satisfaction? "She lies down." Yes, she lies down, and perhaps she curls herself up on the chair or stretches herself out before the fire, or, better still, perhaps if she likes you very much, she jumps up into your lap and just curls herself up there and goes to sleep very snugly and comfortably. What kind of a sound does she make now? "She purrs." She purrs and purrs, and this is pussy's song of satisfaction. She is perfectly satisfied and contented. Doesn't it make you feel very happy to know that pussy likes you so much for being so good to her? That is always the way with the dumb animals. When we are kind to them they are very good to us. We should always be kind to pussy and all our animal pets, but sometimes little boys are not kind and annoy the cats and hurt them. Do you think pussy likes that sort of a boy? "No." No, she gets very angry with him, and when pussy is angry what does she do? "She scratches." What else—does she make any sound? "She makes a growling sound." Yes, and that means that she is going to hurt you if you don't take care, and when she gets more angry still she hisses and scratches pretty sharp. But we should always avoid making these animals angry or hurting them in any way. It is very wrong. Does pussy make any sound when she is hunting for a mouse? No, she moves about so very quietly you would never think a living thing was moving. Why is she so quiet? "She does not want to frighten the mouse." What time does she hunt for mice? "Night time." Yes, at night, when everything is still and dark and the mice are leaving their holes in search of food. When she finds the hole she just slips up to it as near as she can without being seen and lies down there and watches it perfectly motionless until the mouse appears. What happens then? "She catches it." She steals up softly and quickly and makes one spring and comes down on the mouse. Then she carries it off in her mouth to her corner and perhaps eats it there—poor little mouse.

Now there is something else very interesting about pussy that helps her when she is on the scent for mice—something that helps her to feel her way in the dark. Can you tell me what? Well, they grow on either side of her face? "Whiskers." Yes, pussy's whiskers. We call them feelers because she uses them to guide her in the dark, and they are so sensitive that whenever anything touches them in the slightest way pussy can feel it at once. We should be very careful how we touch pussy's feelers, because they are so very sensitive that if we touch them roughly it hurts her very much.

Now there is just one thing more I want you to tell me. You know pussy is a very clean animal. I want you to tell me how pussy keeps herself so clean. You never see her in the water, do you? No, pussy never goes into the water, she does not like it, and you will notice when she steps on a little water she lifts up her foot right away and shakes it off. Well, how does she clean herself? How does pussy clean her face? I think you have often seen her do it, for she cleans her face every day. "With her paws." Yes, she wets her paw with her tongue and draws it over her face and then over her ears a great many times, and if you are looking at her she looks up at you every little while as if she would say, "Well, little girl, what do you think of that?" How does pussy smooth her hair? "She uses her tongue." Yes, these same little hooks on her tongue we were speaking about do for a comb. You know pussy is very particular to look well, and she combs and smooths down her hair every day, and sometimes two or three times a day. So you see if we just study pussy's ways we will find a great many things to make us like her, and we will learn the reason why pussy is such a household pet all over the world.

Second Year—The Flight of the Birds

Now I think some little boy or girl here must have been told by mamma or papa many interesting things about the little birds that come to make their home with us in the summer and fly far, far away to another home whenever the weather begins to get cool in the fall. Where do they live when they are here? "In nests." Yes, but after the nesting is over they live in high trees, and some of them in the bushes and hedges, and a great many of them away out in the woods and meadows where there are plenty of insects, seeds and berries to eat. Here they spend the long summer days flitting about from place to place as happy as happy can be. But by and by the days grow shorter and the nights cooler. The leaves begin to fall and the woods to look bare, and then the little birds begin to think of the grain fields and the meadows and the richly wooded lands of the sunny south. I wonder what the little birds do then? "They go away." Yes, they begin to think of going away because they do not like the cold winds and the snow of our winters. But some hardy little fellows that are not afraid of the cold stay with us all through the winter weather. Do you know any of the birds that stay with us all the year round? "The sparrow." Yes, the sparrow can stand the cold, but there are some other hardy little fellows that aren't afraid of the cold any more than the sparrow. Tell me some of them? "The woodpecker, blue jay, goldfinch, song sparrow, chick-a-dee, nut hatch." The beautiful summer birds—the robin red breast, the wide-winged swallow, the golden oriole, the brilliant little humming bird and all the many song birds that make the woods and the meadows so lively with their music—they all take their flight to other lands. Where do they go? "To a warm country." Yes, to their winter home in the sunny south. And why—can you tell me why they leave us? "Because it is cold." Yes, that is one reason. Any other? "The trees have no leaves." Yes, the birds do not like the trees without leaves. Is there another reason still? What do the birds live on? "On flies, worms." Yes, on all kinds of insects that fly in the air and on the water, and worms and caterpillars and the seeds of plants and berries. They cannot find these things when the summer days are ended and the leaves begin to fall, so they think of the sunny lands of the south and prepare to leave us.

What a great time our little bird friends have preparing for the long journey to their winter home! How, do you think, do these little birds start out on their journey—alone or with other birds? "With other birds." Yes, these little birds are very fond of company. Even when they are in their summer home, amongst us here, they like to flutter about with their companions in the meadows and fields and trees. So when they begin to get ready for their journey south what do they do? "Look for other birds." Yes, they look around for their companions and they pick out some part of the country where there are plenty of trees to roost on, and they make this the place for all the birds to gather together for miles around. I wonder how long they stay here? "A few days." There is a place just over in New Jersey where thousands and thousands of birds congregate every year about the beginning of September in preparation for their flight. If you lived near one of these places where they gather in great flocks and watched them carefully you would see them coming every day from all quarters to roost on the branches of the trees until they are all ready to go. When they are all ready how, do you think, do they go?—all helter skelter or in regular order? "All together." "Any way." No, quite different. You know how the little boys and girls march out of school? "Yes." Do they march out class after class in regular order? "Yes." Well, it is just so with the birds. They start off in good order and continue the procession until the last bird has gone. I wonder if you can tell me what time they go—in the night or in the morning? Well, some of them go in the morning, but a great many of them take their departure after night has set in. Just think of it! These little birds that have been used to going to bed before dark start out on their long journey in the darkness of the night and fly all night long. Which of the birds take the lead do you think? "The biggest, strongest." Why? "They are not afraid; they know the way." Yes, the oldest birds and the largest, for they have been over the road before. These leaders start off first and call to the other birds, and these chirp and chatter and flutter a great deal, and all the young birds that have never been over the road before hear them and fly after them. If you watch the sky carefully on a clear moonlight night in September or October you may see thousands and thousands of them hurrying onward on their journey. And when do they rest? "At sun rise." Yes, when the sun rises they look over the country beneath them to find a good resting place where they can also find plenty of food, and there they light and remain all the day resting and feeding and getting ready for their journey again when the night sets in. I wonder why they travel by night? "They do not want to be seen." Yes, the birds that travel in the night time are timid little things, and a great many of them have been accustomed to the quiet and stillness of the woods and don't like to be seen. So when the sun rises they make for the woods and meadows again and stay there all day. I wonder if they go very high up when they are flying? "Yes." Yes, away up in the sky. How long does it take them to reach their winter home? "Many days." A good many days. Some of them go thousands and thousands of miles, and cross mountains and lakes and seas and continents before reaching their destination. There they stay until next spring when they come back again over the same road, back to the same spot where they were before in their summer home here.

Now these are the birds that make their flight in the night, but there are others that fly in the daytime. What kind are they? "Birds that like to be near people." Yes, these are the birds that are not afraid to be seen, birds that like to be near the habitations of men, birds that flutter about the windows and doors and chimneys of our houses, birds that are always on the wing and get their food as they fly, like the swallow and the chimney swift. These birds often congregate in the outskirts of towns and cities in preparation for their flight.

I remember when I was a very little girl seeing an immense flock of swallows getting ready for their flight. I noticed a number of them one day on the house tops near where I lived. Every day thereafter for several days great numbers of them came to join their companions until there were thousands and thousands of them. You know the swallows are very active little birds, just as much so as the sparrows, and their continual chirping and chattering and whirring and stirring made that a very lively place for a time. I watched them for hours at a time, and I always rose early in the morning to take a peep at them. One morning I awoke at daybreak and heard a great chattering and commotion among the birds, and I looked out, and oh, what a wonderful sight I saw! It seemed to me as if the heavens were filled with the multitude of birds. Myriads of them were flying about, and high up above the house tops they were rising like clouds climbing up the sky. As they rose they circled round and round, going higher and higher all the time until they appeared just like little specks away up in the sky. By and by the old birds that were leading turned toward the south and, darting off in a straight line, began the journey toward their winter home. When the people woke up in the morning all was quiet and still. The birds had all disappeared, not a single one remained—not one.

Third Year—Trees

I think every little boy and girl loves the trees, and I often wonder if you know just why. I think if I should ask you, you would tell me that you love them very much, but you do not know exactly why.

Perhaps some little girl would say, "Oh, they are so very, very beautiful that I just can't help loving them," and perhaps the boys would say that they like them because they are so good to the birds and make such lovely places for them to live in.

Well, the trees *are* very beautiful, and they are very good to the birds. They are very good to us, too. They are almost like friends. Have you ever looked out of your window in the early morning and noticed the trees nodding their heads to you and rustling their leaves just as if they were saying "Good morning, little girl, I am so glad to see you?" In the evening when it is getting dark how often we have listened to the branches swaying gently in the summer breeze and lulling us to sweet sleep and dreams.

If you lived in the country where the trees are everywhere you would become quite familiar with them and you would learn to know how they express all the feelings of the heart; how they are sad when you are sad, and how they are glad when you are glad. So you see the trees are very interesting, so very interesting that the more we study them the more they seem to be our very good friends. I wonder if we can find out something more about these very good friends of ours.

Well, first of all, tell me what you notice most when you look at the trees. "Leaves." Yes, leaves. There are so very many of them and they make such a beautiful costume for the trees. But do the leaves serve any other purpose? "Yes." Well, perhaps you can tell me of some other purpose. Have you ever noticed that the leaves always turn toward the sun? What does that mean? "They like sunlight." Yes, they like sunlight, and they need it, too. The leaves absorb it and it helps to make the tree grow, and that, too, is one reason why it is always cool and comfortable where the trees are. Perhaps you can tell me of something else the leaves need very much and get from the atmosphere—something that keeps the leaves moving and the branches swaying? "Air." Yes, the air, and how they do enjoy it! I think they enjoy it just as much as we do, and I know they need it just as much. Men who study the trees and know all about them tell us that the leaves are the mouths and stomachs of the trees, and that they breathe the air constantly just as we do. In every leaf there are hundreds of little cells—just like mouths—so small you can't see them unless you use a magnifying glass, and these little mouths take in the air. Do they breathe out again as we do? "Yes." Oh, yes. First of all they take out of the air the substance they need for building up the tree and then breathe back again the substance they do not need. Do you know this very substance is what we need to keep us alive and well? It is the oxygen we are breathing every minute, and without it we could not exist. But there is something more these little mouths take in from the atmosphere? "Rain." Yes, moisture in the form of rain or dew—the trees cannot live without water. How do the leaves look when the cooling rains fall on them? "Fresh." Yes, they look fresh and bright and green, just as if they enjoyed it. Under the influence of the sunlight the water they drink and the air they breathe are changed into the material that makes the tree. So you see the leaves have a very important part to do in building up the tree. In fact, they do the greater part of the work; but there is another part of the tree that does some important work, too. Can any one tell me? "The root." What does the root look like? "Long arms." Yes, the root is composed of long shoots or tentacles, growing deep into the ground. What is the root for? "To hold the tree." What else? "To get nourishment." Yes, food and water. The root sucks up the water and the water goes into the sap of the tree. With the water it also takes up certain mineral substances out of the earth which the tree needs to make wood.

Now although the root is away down in the ground and we cannot see it, it is just as wonderful and interesting as the leaves. Have you ever noticed how the root grows small and fine toward the tip or point? Well, the tip is very sensitive and the tree feels its way with it just as you do with the tip of your finger. You know how a worm bores its way into the ground? Well, it is just so with the root. The tip is like the head of the worm. It feels its way through the ground, first up and then down, turning one time to the left and then again to the right, just as it finds the earth suitable for its purposes. When it comes against a big stone or other obstruction it feels its way over it or around it, winding in and out as it deems best. Why? It is trying all the time to fix the tree firmly to the ground, and to find the nourishment it requires.

All through the summer months this beautiful and interesting work is going on, but when the autumn comes a change takes place. What change do we notice? "Leaves change their color." Yes, in the summertime they are green, all shades of green. But do they remain green always? "No." What color do they change to? "Brown." "Yellow." Ever so many colors—brown and yellow and gold and orange and red and crimson in all their shades. Even purple and pink are found among autumn leaves. How very beautiful they are! By and by, when the colors fade and the leaves get dry and crimpled, what happens? "They fall off." Why? "They are old, dead." "The wind blows them off." Yes, they are old and dying and are of no more use to the tree. So when a little frost comes or the wind blows sharply they break off and fall to the ground. And what is left there? "Another leaf." When the leaf falls it leaves a mark called the leaf scar, and just beside this scar or mark is a tiny little bud—the most wonderful thing you ever saw. It is a very tiny little thing, but if you were to look at it through a magnifying glass you would see all snugly wrapped up and tucked away the leaves which are to come out next spring. And this delicate little bud is protected with scales which cover it just like shingles on the roof of a house. I think some one can tell me why? "To keep out the cold." Yes, to keep the wind and the cold from injuring it during the long winter months. Besides these scales it is covered with a gummy substance which prevents the ice and snow from getting into the bud and destroying it.

Another thing you would notice when you look at the buds is the position of the buds on the twig. Are they carefully arranged along the twig, or do they just grow anywhere and everywhere? "They are arranged." Yes, very carefully arranged—one on one side and another on the other, just like my arms when I raise them and stretch them out like this (stretching arms out). Sometimes they are not exactly opposite, but alternate. Usually there are two leaves between each ring scar. What is a ring scar? Well, every year the twig grows a few inches, and the ring scar is the mark around the twig showing where the twig commenced to grow in the spring, so that you can always tell how much it has grown each year by measuring from one ring scar to another. (Teacher should show twigs illustrating these facts.)

When is the tree all prepared for winter? "When the leaves are off." When the leaves are all off and it is quite bare. Why is it better without leaves? "Snow can't remain on it." The snow has no place to lodge on it. When it is bare the snow falls through and the cold, piercing winds blow through without injury to the precious little buds. Does the tree grow in the winter? "No." Well, what is it doing all the time? "Nothing." Nothing at all, only resting and waiting. When the warm days of spring come back these delicate little buds will burst through their covering and begin their beautiful work all over again.

Fourth Year—The Oyster

What are animals that live in the sea called? "Fish." Are all animals that live in the sea fish? "Yes." "No." Are oysters fish? "No." How do we distinguish fish? "They have fins." "They swim." Do oysters swim? "No." Are you sure? "Yes." Never at all? "No." Well, they do. At one period of their lives they swim. This is when they are just little baby oysters. Have they any shell then? "No." They have no shell. They are very tiny little things, not much bigger than a pinhead. They swim about the bottom of the water looking for something. Can any one tell me what it is? "Food." No, not food. What do they rest on or fasten themselves to when they are growing? "Stones." Yes, on stones or logs in the water, or anything solid. You can tell me now, I think, what the little baby oysters are looking for when they swim about so early in life. "A place to live." Yes, a place where they can settle down for good. When they do find a log or stone or anything solid they just settle down there and never swim any more.

Now they begin to make themselves comfortable by building a home. What kind of a home does the oyster live in? "In a shell." Why does it need a shell? "Because it has a soft body." Yes, it's body is very soft, and it needs something hard and solid to protect it. If it did not have this hard covering it would be very easily hurt, and perhaps the large fish or other sea animals would eat it up. So the oyster begins the wonderful and interesting work of shell building just as soon as it finds its resting place on the stone or log. Perhaps some boy can tell me how the shell is formed? "It has two sides." Yes, there are two parts, sometimes called valves, and they are set on a hinge so that the oyster may open or close them at will. Here is a shell. What do you notice about the shape of one of the valves? "It is deep." Yes, it is deep toward the back or hinge, forming a hollow or bed for the oyster to rest in. And the other valve? "That is flat." It is nearly flat, and this is the door the oyster opens and closes. You have heard the oyster called a bivalve, and I think you can give me the reason now. "The shell opens in two parts." Yes, bivalve means two pieces or doors that open on a hinge.

You have all no doubt often seen oyster shells just like the one I have. I want some one to describe to me how they are constructed. "They are built in layers." They appear to be built layer upon layer, just as you would put one piece of thin paper under another, and, if you look at the edge of the shell, you will see how each layer extends out just a little farther than the one above it. Which was made first, the outer or the one next to the oyster? "The outer one." The little one on the outside near the hinge was made first. This was the shell the oyster built around itself when it was a very little animal, and since then it has been adding layer after layer as it grew bigger, until it had a thick hard shell to protect itself. When the oyster is full grown the shell does not grow any larger, but the oyster keeps on adding layers to make the shell thicker. We estimate the age of an oyster by its shell. How long does an oyster live? "It lives many years." Three or four years usually, but sometimes they live as long as ten years. We can tell this by the thickness of the shell.

Perhaps some one can tell me what the hinge looks like. "It is brown." "It is tough." Yes, it's a brown, tough substance, very much like thin brown elastic. It is the hinge that pushes the shell open. When the two valves of the shell are brought together they press very hard on the hinge, and the hinge, being like a little elastic cushion, is ready to push the valves apart whenever the oyster wants to open its shell again. How does the oyster hold the valves closed? "It pulls them together." "It keeps a tight grip." You will notice in the inside of this shell in both the valves a little spot, bluish in color. This is the spot where the muscle of the oyster was fastened to the shell so that it could hold the valves so tight that no one could open them except with an instrument. And these are the two parts the oysterman cuts when he takes the oyster out to be eaten. When does the oyster close the valves? "When it is caught." When there is any danger, and always when it is taken out of the water. When it is lying securely in its bed at the bottom of the water it is almost always open.

How about the food of the oyster? Perhaps some one can tell me what it lives on? "It lives on water." Oh, no. "It lives on things in the water." Yes. The water that oysters live in is brackish, that is, it is not very clear. There are many things floating about in it—little plants and minute animals of one kind and another. The oyster lives on these. Now, if the oyster is fastened to the bottom, how does it manage to get these?

"They drop down to it." No, not exactly. The oyster has gills, and these gills open and close something like the gills of fish, making a current which carries the minute particles to the oyster. These particles are taken up by the gills as the current passes through, and are carried to the mouth of the oyster for food. Where is the oyster's mouth? "It is at the narrow end." Yes, near where the hinge is. And the gills? "The gills are around the oyster." They extend around the soft part of the oyster from the mouth to the wide end of the shell. I suppose you will be interested to know that the oyster has a heart, a stomach, a liver and other organs possessed by animals of much larger bulk and of much more pretentious and imposing appearance.

There are many more very interesting things to know about this little animal that lives at the bottom of the sea. If you read some good book on this subject you may learn all about the oyster fisheries—how the divers go down in the deep waters of the tropics to find the wonderful pearl oysters, and how very interesting and difficult is the work of finding these valuable and precious shells. You know it is a certain kind of oyster that gives us the beautiful pearl that is set in rings and in other pieces of valuable jewelry. Some other time we will take up the story of the pearl oyster.

Information on the Birds Loaned to the Public Schools by the American Museum of Natural History

Adapted for Grades 1 A—3 B.

By Rhoads Doyle, P. S. 4, Manhattan.

> "'Tis always morning somewhere,
> And above the awakening continents from shore to shore,
> Somewhere the birds are singing evermore."

THE futility of all attempts to make the study of birds from pictures either very interesting or profitable, is too well known to teachers to deserve comment. The privilege of a loan of mounted birds extended to deserve comment. The privilege of a loan of mounted birds extended to the public schools of this city by the American Museum of Natural History, has been deeply appreciated by those teachers who have availed themselves of it.*

They are native birds, chosen with regard to the demands of the course of study, and are excellently mounted in their characteristic attitudes. They are delivered in sets in the following arrangement:

Owl Set—Containing owl, chickadee, nuthatch, song sparrow, kinglet.

Blue Jay Set—Containing blue jay, woodpecker, crossbill, junco, English sparrow.

Robin Set—Containing robin, red-winged blackbird, orible, meadow-lark, chipping-sparrow.

Bluebird Set—Containing bluebird, phœbe, barn swallow, house wren, chimney swift.

Accompanying each set is a copy of notes, brief but suggestive, giving facts on the structure, habits and characteristics of the specimens in that set. To obtain the use of a set one must make application through the principal of the school. The application should be addressed to the director of the American Museum of Natural History. The set specified is delivered and transferred at the end of the loan period by a messenger of the museum and without expense to the teacher or the school. At present only one set at a time can be loaned to any one school, and this may be retained for a period of three weeks. When making application for one set, it is well to indicate the order in which you wish the others delivered.

Five birds are not only rich material for a series of nature studies for a period of three weeks, but also suggest innumerable topics for copied paragraphs and compositions. With little trouble much literature on the subect may be found, while such birds as the blue jay, oriole, robin, bluebird and junco, make interesting studies in chalk for the older children.

As each bird is examined direct attention to resemblances and differences existing between it and birds previously studied. For example, compare the oriole's mode of escape with that of the meadow-lark; compare the house wren's wings with those of the barn swallow; compare the swift's feet with the owl's. Name birds of the ground; those of the tree tops. Name singing birds; non-singing birds.

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*Collections of insects, mollusks, crabs, starfishes and worms, woods, minerals and rocks, sponges and corals, are also loaned by the Museum.

Consider birds as allies to agriculture. Is birds' destruction of insects wanton? Consider bills and feet of birds as indexes of their habits. Consider the subject of protective coloring; that of the positions of nests.

The study of a bird seems scarcely complete without an inspection of its nest; the choice of location and of building material reveal traits in the bird's character. There is always much bustle after the migration and mating when the subject of nesting is paramount. There is the consultation when the necessity for locating near a food supply is considered, as well as the need of protection from enemies. It is while the nest is in process of construction that each bird shows himself to be master of his arts, although his methods may differ widely from those of another. "The Magpie's Lesson in Nest Building" is an interesting myth to tell in this connection.

It is not generally known that few birds care for deep woods. No song comes from the sombre pine and hemlock forests; it is on the verge of a sunny, open wood that most birds like to nest.

Consider the lesson in patience we may learn from the parent birds as they pursue their many journeys in quest of food. The rearing of a bird family requires tireless energy. The gaping mouths in the nest seem to be never satisfied. Moreover, most birds keep their nests scrupulously clean, although there are good and bad housekeepers even in the bird world.

One no more thinks of the bird apart from its song than one fancies the rose without its perfume. Unfortunately, every one does not possess the intimate knowledge of birds necessary to the rendering of each bird's song. Even among those who do there are seldom two who agree upon any one interpretation. But for those who wish to become better acquainted with bird melodies there is a most helpful book entitled "Field Book of Wild Birds and Their Music," by F. Schuyler Mathews, in which the author who regards the little bird as "Nature's exponent of the joy of living," gives the songs in a form easily rendered by the human tongue.

To the following notes is appended a bibliography that will be found excellent for reference to additional facts. Any one of the books listed will well repay one for the time spent in reading it.

OWL.

This particular specimen is the little screech owl.

Length, about 9½ inches.

Colors, a mixture of mottled brown, chestnut, ash-gray, black and ochre on a white ground.

Stoutly built, with a large head, which it turns as though fixed on a pivot. Large facial discs. Eyes fixed in sockets. Eyesight extraordiarily acute.

The owl belongs to the order of preying birds. *Diet,* small birds, mice, snakes, frogs. Digestion rapid; eats great quantities. Saves time by swallowing food whole; has power to regurgitate indigestible parts.

Talons sharp and curved for seizing and holding prey. Feet covered with short feathers. *Bill* sharp and hooked, to tear it apart. *Wings* strong and enduring, as absolutely noiseless as those of the bat. It is a mouser and destroys pests; seldom destroys insect-eating birds.

Season: it is a common resident.

Nest, generally in the hollow of an apple tree or other tree not far from some dwelling. Will even nest in a secluded nook of a house. *Eggs,* pure white. Sometimes both little parents sit on the eggs at the same time.

The owl utters a mysterious, wailing, whistle-like song, eerie as might be expected from one affecting such a diet. But it does not screech until the owlets are reared and fairly launched.

The following is a story in the "Field Book of Wild Birds and Their Music":

"On one occasion several summers ago, I was hurriedly invited about sundown by one of the members of the family, to investigate the nature of a strange voice that issued from the border of the woods near the cottage. Although I knew the note of the screech owl perfectly well, this note was less musical and only remotely resembled it by a curious tremolo. So I concluded to put the matter to the test by giving sonorously the full screech owl song in a series of quavering whistles running down the scale. In less than five seconds there appeared in the dusk of the evening half a dozen young screech owls, who flew about with silent wings, and at last perched upon the rustic fence, the arbor and the old boat which was filled with garden flowers. They had answered my call promptly, and had come to see 'what was up!' Their notes were simply weird, a sort of cross between a sneeze and the wheeze of a pair of leathern bellows with the wail of a 'half-frozen puppy' thrown in to make matters more mysterious. I shortly came to the conclusion that these were young birds which had not yet learned to sing properly, so I gave them a lesson or two, at the same time profiting by the experience, and getting in a few lessons for myself."

Read to the class, "The Owl," by Tennyson, and "Winter," by Shakespeare.

CHICKADEE.

A fluffy ball of thick, unkempt feathers. Note his distinguishing mark, the jet black cap reaching well down in the back, also the black patch on his throat, relieved on both sides with white. Note the white margin on the larger wing and tail feathers. The sexes do not differ in coloring.

The chickadee is a hardy, dauntless little fellow, an all year round bird; accepting the meagre hospitality of our winter moods.

"This scrap of valor just for play
Fronts the north wind in waistcoat gray,
As if to shame my weak behavior."

The chickadee is sociable and responsive; can be taught to feed from one's hand, although quite capable of finding food for himself. Lives on grubs, eggs of moths hidden under bark of trees. (Birds that eat insect eggs are most valuable to the farmer, as they feed almost entirely on those of injurious insects.) But when insects fail chickadee takes kindly to berries, seeds, cone-kernels and crumbs. Will wedge seeds or nuts in crevices of bark and with repeated blows of his bill will crack the shells. His sharply pointed little bill is well suited to the work of excavating eggs from under bark.

A chickadee uses the deserted hole of a woodpecker for a home. When he cannot find one, he uses his bill as carpenter's tools and tunnels out a nest for himself in a post, stump or tree trunk, ten or fifteen feet from the ground, and lines it with moss, grass, feathers and plant down. Eggs are white spotted with ruddy brown.

Chickadees get name from their harsh, squeaky call-notes. Their song is entirely different; it is a whistle, simple but very sweet and melodious. F. Schuyler Mathews says: "Few birds whistle their songs as clearly and separate the tones by such lucid intervals."

Note the difference between the dignified walk of a dove and the merry hop of a chickadee.

"The chickadee is a noisy, restless little acrobat as well as an educated musician, and his appearance with a dozen of his fellows in the pine-tree near my cottage is the signal for a circus performance with an orchestral accompaniment. * * * The nimble chickadees shake up the old pine tree into active life until every green needle quivers with excitement, and the little gray-costumed tumblers are at it with all the sprightliness of which they are capable. That means that most of them are wrong end up, the others are balancing sideways, and that while you are endeavoring to adjust your opera glass every one has turned a somersault and flown to the other side of the tree."—*From Field Book of Wild Birds and Their Music.*

"Then piped a saucy voice hard by,
Gay and polite, a cheerful cry,
Chick-a-dee-dee! saucy note
Out of sound heart and merry throat
As if it said, Good-day, good sir!
Fine afternoon, old passenger!
Happy to meet you in these places
Where January brings few faces."

EMERSON.

NUTHATCH (The White-Breasted).

Gives its name to a family of birds to which the chickadees belong. It is characteristic of the birds of the nuthatch family to be seen creeping conspicuously about tree trunks, especially in autumn and winter, frequently walking head downwards, and performing other acrobatic feats while in search of food. It is said the nuthatches sleep head down suspended from a branch. Farmers call them tree mice.

Nuthatches are friends of kinglets, downy woodpeckers and chickadees. Are not shy but restless. Only leave most northerly parts of their range for short time in winter. In summer retire with chickadees to woods to build their nests. They often fall heirs to abandoned holes of woodpeckers. They furnish the chambers to their own liking with soft material of various kinds. They have many of the traits of the woodpeckers, but cannot tunnel into a tree trunk.

The eggs are creamy white, thickly and evenly flecked with various browns. While the mother bird sits on the eggs the father bird essays to keep her in pleasant humor, now by feeding her with a full bill, now by calling reassuringly from a neighboring branch.

Note peculiar markings. Extreme under parts and under tail coverts are washed with faint Indian red. Slightly enlarged toe-nails. Tail short and square, but not used in climbing.

The nuthatch has no song. Its call note is a nasal monotone, extremely low pitched: *Yank, yank, yank,* suggesting the sound produced by a toy trumpet.

The bird's name is derived from its habit of cracking or hatching nuts wedged in crevices in bark.

Nuthatches are adroit in loosening and knocking off with their bills decayed bits of wood to get grubs beneath. Thus are beneficial to vegetation

SONG SPARROW.

Look for the black stripes that terminate in a dark central blotch on the breast. These with the black buttons on its white striped vest make the bird conspicuous.

Their season extends from February through November, but as song sparrows are vegetarians in winter, individuals are therefore able to remain north through the year. At arrival of spring they change their diet to one of insects. They are useful birds, as they set eagerly upon injurious caterpillars, grasshoppers, cabbage worms, leaf-eating beetles and moths, rose bugs and cutworms.

The loosely built nest placed near the ground in hedges or bushes, is formed of dried rootlets and leaves, shreds of bark, coarse grasses and sometimes hair, lined with similar but softer material. Eggs are bluish white, heavily marked with brown.

No bird is more gentle and winning than the song sparrow. Its sweet song is indicative of a gentle nature; even its chirp breathes of contentment. When the song sparrow nests near the house, it may easily be induced to come to the doorstep for crumbs.

The song sparrow is among the first birds to sing in spring, and remains the most constant singer among our northern birds; singing under all conditions of weather, at all times of day (sometimes at night) and in the case of those that remain north in every month of the year. Its song has fifteen varieties; few birds possess this versatality.

The song of this sparrow "has a swing and accent to these few tones which perfectly express an exultant feeling, something akin to that so eloquently given in the first bars of Siegmund's love song in the 'Nibelungen Lied.'"

Read to the class "The Song Sparrow," by Henry Van Dyke, and "The Song in the Night," in Lovejoy's *Nature in Verse.*

KINGLET (Golden Crowned).

The kinglet shares with the wren and the humming bird the distinction of being one of the three smallest birds of the United States.

Find in the male of this particular species (the golden crowned) the flame-colored crown spot and bordering black lines which are wanting in the female. Note the whitish line over the eye. Describe the plumage of the upper parts as olive green and as being more decided on the wings; the under parts are whitish. The bill and feet are black.

Kinglets are ranked among our winter visitors. They come from the north and remain during winter. In rigorous seasons they pass southwards in January and February, but return to their northern feeding grounds in March.

Their diet is one of insects, which they seek tirelessly by the hour under the rough bark of evergreens or fruit trees. Kinglets are so small and restless they may easily escape notice.

The nest, placed on a high bough of an evergreen, is a ball of hair and moss, often lined with feathers. The eggs, from six to ten in number, are white, thickly speckled. Kinglets raise large families.

They are valuable birds. They come when most insect eaters are absent in the south. They frequent all classes of fruit trees in search of grubs and larvæ.

BLUE JAY.

One of our most brilliantly colored and vivacious birds. Measures from eleven to twelve inches in length. Note the various tones in its plumage: the azure in the jaunty crest, the lead blue and purple of upper parts; the bright blue of wings and tail; also the transverse markings in black and white of wings and tail. Note black collar extending up across back of head.

Its power as a mimic, well known. Belongs to the family of crows and jays. It possesses many of the characteristics of the crows. Has the powerful bill and feet of the family.

The blue jay is a resident bird. In summer it feeds on berries, small fruit and grain. In autumn it gathers a store of chestnuts and acorns (the former being its favorite diet). Also feeds on noxious insects, e. g., caterpillers and grasshoppers. Like the nuthatches and chickadees it may be attracted in winter by suet hung on trees. The jay is not as wicked as many believe it to be, rarely eating small birds and eggs, and never destroying corn except when it can get nothing else.

The blue jay uses its feet as the crow does—to hold food while it hammers it with its bill.

Its cry of "Jay, jay, jay!" is harsh although not altogether unpleasant.

Blue jays go to the woods to nest. The nest is made of rootlets and twigs compactly interwoven. No soft material for a lining which, however, is composed of fine twigs and rootlets. Nest is placed from ten to twenty feet from the ground. Sometimes a blue jay will drive away other birds engaged in nest building, finish the job to suit himself and later occupies the nest.

The eggs are olive or brownish, thickly marked with brown spots. Blue jays make devoted parents.

They are social like the crows, and live in flocks when not nesting. The following as an instance of remarkable devotion to one another, is quoted by the author of *Birds of Village and Plain*:

"Mr. Kumlein found an old feeble jay, with feathers faded, claws worn, bill dulled and eyes blurred and dim, who was being protected and cared for by his companions. Some of them were always near to warn him of danger, and besides this, the faithful band would bring him food and carefully lead the old blind bird to a spring for a daily bath."

DOWNY WOODPECKER.

This species is the smallest of all the members of the order of woodpeckers. Describe the markings on the wings and tail. Note the red head band in the male, which is replaced by a white stripe in the female.

Have you ever noticed symmetrical rows of holes bored in the trunks of some apple trees? How have you accounted for their presence? The downy woodpecker bored them with his chisel-like bill in his effort to extract insects from beneath the bark. After the hole is bored he draws out the choice bit by means of his barbed tongue. The woodpecker has often been represented as taking the sap of a tree, thus draining the tree's vitality; but this is not true. His diet also consists of the contents of cocoons, insect eggs, ants and larvæ.

Downy woodpeckers are gentle birds to be seen about gardens and orchards the entire year, but little given to social intercourse with other birds. Neither do they sing. Instead of the melodious call of most birds, the downy woodpecker summons his mate by an incessant drumming of his bill on the trunk of a tree.

He uses the bill as a carpenter's chest of tools while carving a home in the side of a tree. For this purpose the skull and the bill must be remarkably strong. A cabinetmaker could not plane and smooth the sides of the burrow with greater skill than does the downy woodpecker when the work of excavating is completed. Notice the stiff tail which is used as a prop.

Both birds help in the making of the nest. The entrance to the hole is placed so as to give the nest a southern exposure. The mother bird is a good housekeeper and examines every detail of the burrow inside and out before laying her five clear white, glossy eggs.

Notice the arrangement of the toes. This insures a firmer grasp of the perpendicular tree trunk.

RED CROSSBILL.

The most conspicuous thing about this bird is the crossed mandibles. They seem to afford a poor tool. But are really wonderfully adapted to the work of extracting the seeds of evergreen cones. The bird is very fond of these pungent seeds. It can also pick up with great facility crumbs, pieces of fat, hemp, millet and salt (of which it is very fond).

Describe the plumage as Indian red shaded with dull olive.

Crossbills are irregular winter residents, a flock of which may be looked for almost any day in winter. They announce themselves with a snapping chirp, ***kimp, kimp, kimp.***

They nest as early as February, and it is a wonder that the eggs do not freeze or the young birds perish. The nest is placed in the fork of a tree, having a base of bark and sticks and a lining of softer material. There are three or four greenish eggs marked with brown and lilac at larger end.

Read to the class Longfellow's translation from the German of Julius Mosen, "The Legend of the Crossbill."

JUNCO (Snowbird).

Throat and breast slate gray, under parts white. Bill flesh white.

They are cheery winter residents, frequenting city parks and even back yards. Permit considerable intimacy. Their habits are like those of the sparrow. Travel in flocks. Their diet one of ants, cutworms, grasshoppers, leaf-eating beetles, the seeds of pigweed, chickweed and ragweed.

The junco is no musician, but has a faint though sweet whispering warble. Its crisp call note sounds like *'tsip.*

ENGLISH SPARROW.

The habits of this little vagabond of our city streets are too familiar to us all to need much description. It is a persistent resident throughout the year.

The male and female birds are easily distinguished. The former has a dark chestnut mark over each eye and on sides of the neck. There is a chestnut and white bar on the wings, bordered by black lines, the tail is gray. The bill, a blue black. The feet, brown. The female is paler in coloring; the bars are indistinct.

English sparrows are untidy housekeepers. The nest is rough and loosely made of straw, sticks and any other material easily acquired.

The song is a harsh chirp.

Tell the story of the English sparrows' introduction to this country more than thirty years ago. They are insect eaters in England, although they are members of a seed-eating family. A change of climate involved a change of habits, and the birds that were imported to destroy the plague of caterpillars, showed a preference for a diet of seeds.

They have put to rout many of our song birds and insect eaters.

ROBIN.

During an ordinary winter many robins remain north, subsisting on wild berries that cling to the bushes all winter. Those that migrate return early in March; are among the harbingers of spring.

The nest consists of small sticks plastered and lined with mud. It is placed in a strong vine or in a tree crotch. Robins are not always careful and wise housekeepers, but make exemplary parents, teaching caution to the reckless birds and disciplining the greedy ones. Father bird solicitious in his attention to mother bird while she broods over the nest. Eggs, a peculiar green blue.

Robins eat wasps, bugs, spiders, worms, grasshoppers and the larvæ of the March fly, that injure grass in hay field; also eat dogwood berries, wild grapes, holly berries, bittersweet and poke berries, seldom injuring cultivated fruit; sometimes help themselves to wild cherries.

Notice the white lids of the robin, the yellow bill, shaded at the tip. Examine the feet. The bill and feet are indicative of the bird's habit. Can you think of other birds in which this is true? Robins belong to the family of thrushes, to which bluebirds also belong. They feed mostly on the ground, and are hoppers. Are insect eaters, casually fruit eaters.

At dawn the robin sings "Cheerily, cheerily, cheer up, cheer up!"

RED-WINGED BLACKBIRD.

Color: lustrous blue-black; scarlet epaulets edged with buff.

This bird sometimes winters with us, but its season is generally regarded as extending from late March to October. A flock of red-winged blackbirds may be frequently seen feeding in low meadows or along the roadside. When they visit a cornfield they more than pay for what they take of the corn by clearing the field of injurious insects hidden under the husks.

They build a bulky, pocket-shaped nest of grass and rush blades lined with fine grass, and hang it between reeds in a boggy place for protection.

Thoreau describes its cry as "Conk-a-ree!"

BALTIMORE ORIOLE.

"Hush! 'tis he!
My oriole, my glance of summer fire!"

Compare the oriole's gaudy coat with the more sombre ones of other birds. Sometimes called firebird, golden robin, hangnest.

Tell the legend that explains the origin of the bird's name: George Calvert, the first Baron Baltimore, after suffering many trials from the temperature in his Newfoundland colony, visited the Virginia settlement. While he was exploring the waters of the Chesapeake, he was greatly cheered by the song and rich tints of great flocks of orioles. He regarded them as good omens, and adopted their colors, orange and black.

These birds are very swift of wing, and when in danger find safety in flight. Their sharp, pointed bill is a good weapon as well as a good fork. They are a great benefit to the farmer, stripping cocoons, eating caterpillars and worms that infest corn, potatoes and turnips; also eating grapes and peas.

Orioles, endangered by their colors, find protection in their deep, pensile nests. These are made of flax, fine grass and string, and are swung cradle-wise from the end of a branch (preferably of an elm tree); are very secure during storms. In these the birds protect their young, while enemies encounter a formidable weapon in their sharp bills. The more infested the neighborhood is with enemies the deeper the orioles weave the nest and the smaller they make the opening. They are called the weavers among birds, while the woodpeckers are the carpenters.

Orioles enjoy intercourse with their fellows, and are not particularly shy. They have many charming ways and are very beautiful as they flit in and out among the white blossoms of cherry trees. The oriole's day seems to be one of perpetual song; that to his mate is one of the most beautiful in the bird world.

MEADOW LARK.

Meadow larks are strong-legged walkers; spend most of their time in feeding on the ground. Eat clover seed. Agriculture indebted to them for large quantities of grasshoppers that they destroy.

Bills stout and straight. *Feet* strong (well developed); claws as are those of all birds of the ground. Tell the story of "The Lark's Spurs," by Jean Ingelow. Tail feathers sharp and pointed, as if worn by friction among the grasses.

Meadow larks are present all winter in large numbers. Those that migrate remain from April until October.

The nest is made of dried grass and placed on the ground, concealed by a turf of grass, which offers a partial roof. Consider the protective colors of the bird. When threatened with danger the bird escapes observation by hiding in grass rather than by flying. Why? Find the band of buff that divides the head into two parts; also the striking black crescent on the golden yellow breast. Why seen best in spring time?

Its thrilling, flute-like song is "Spring o' the *Y-e-a-r, Spring* o' the Year!"

CHIPPING SPARROW.

F. A. Merriam, in "Birds of Village and Plain," tells a remarkable story about the friendly relations that were established between a chippy and a certain gentleman. The chippy had become so tame in this gentleman's presence that he would perch on his hand and take his breakfast there with an air of perfect confidence. After a winter's sojourn in the south, chippy returned to the same corner of the earth, and when the same hand offered chippy his breakfast in the accustomed manner, he unhesitatingly assumed his former position.

Examine the chipping sparrow's cone-shaped, seed-cracking bill, peculiar to all the sparrows. What does this indicate of its habits? But its diet is one of insects and worms as well as of seeds. Because of its catholic tastes it does not find it necessary to go very far south.

It is one of the first birds to sing in the morning; its song is somewhat like the locust's; it is a rapidly reiterated "Chip chip!" Sometimes awakens in the night and utters a few notes.

The chipping sparrow builds a neat, hair-lined nest placed in the vines on a porch or in a nearby tree. The bird is particularly tame.

BLUEBIRD.

"Suddenly out of the heavens,
Like sapphire sparks of light,
A flock of bluebirds swept and lit
In the woodbine's garlands bright."
—*Celia Thaxter.*.

The bluebird has been called "the color-bearer of the spring brigade."

I cannot refrain from quoting that tender eulogy in the chapter on the bluebird in John Burrough's "Wake Robin":

"When nature made the bluebird she wished to propitiate both the sky and the earth; so she gave him the color of one on his back and the hue of the other on his breast, and ordained that his appearance in spring should denote that the strife and war between these two elements was at an end. He is the peace harbinger; in him the celestial and terrestrial strike hands and are fast friends."

It was one of the first birds seen by the Pilgrim Fathers, who called it the blue robin.

It is among the first of the small birds to begin housekeeping. Its nest is usually merely a lining placed in a decayed knothole or abandoned woodpecker's hole. But the bluebird always seems glad to secure quarters in a bird house. Mrs. Bluebird is a model housekeeper.

The bluebird eats wild berries, rose hips, holly, sumac, huckleberry and dogwood.

Its song is an appealing, tender warble, in the spring resembling, as some think, "Dear! dear! think of it, think of it!" In autumn as it rises for its flight to warmer climes, it seems to call, "Far-away, far-away!"

PHOEBE.

The phœbe belongs to the family of flycatchers. It has a broad bill tapering to a point, and a large mouth. It perches while in wait for prey, with wings and tail drooping and vibrating. As an insect passes it dashes into the air, seizes it with a quick movement and a click of the bill and returns to its perch. It clears the air of flies and wasps that annoy cattle. Frees trees of injurious insects.

Notice the rectile crest. The phœbe is a conscientious bather.

Often builds a bulky nest of mosses, mud and long hair, placing it on a rafter in a barn or in a corner of a veranda.

Does not go very far south. Has a harsh, plaintive cry, "Pewit-phœbe, pewit-phœbe."

BARN SWALLOW.

Long wings and forked tail peculiarly characteristic of the barn swallows. Are birds of the air in the fullest sense as indicated by flat, broad bill, and small, undeveloped, perching feet. They are not fitted for walking. Spend the day flying low over open space in search of insects, feeding while on the wing. In the evening shortly after sunset, fly in flocks in wide, graceful circles.

Direct attention to the metallic, steel-blue sheen of the back.

A shallow, bracket-like nest made of mud and straw placed against rafters.

A ripping, merry twitter, *tittle, ittle, ittle-ee.*

A story is told of a migrating flock of barn swallows, several thousand strong, that flew down the chimney of an abandoned house and settled themselves comfortably for the night on the floors of the several rooms, like little wayfaring tramps.

HOUSE WREN.

"'Twas in the merry time when Jenny Wren was young."

An excitable little bird always on the *qui vive,* now bobbing and bowing with its tail erect, now creeping like a feathered mouse into some cranny in search of insects and worms. It is in perpetual motion. Compare the short, rounded wings with the swallow's; wrens never soar. Consider the protective coloring; it is that of the earth.

Bob and Jenny Wren hide their nest in all sorts of out of the way places, as once, in an old leathern mitten on a shelf in a tool shed; another time in the pocket of the gardener's coat, and again in discarded tin cans and glass jars. Once they found an old wooden shoe that was doing service as a string box, and here they tucked away a nest in the building of which strings were freely used.

Wrens abhor empty spaces and always stuff such with any available material. They eagerly accept quarters in a bird house, and as they are good housekeepers they are always welcomed.

Wrens are highly accomplished singers.

CHIMNEY SWIFT.

Swifts are the most aërial of all land birds. Feet, tail, wings and bill are all adapted for their mode of life. Are not related to the swallows, but belong to another order.

Consider the deep-set eyes, and overhanging brow; the broad chest and small body. Wings are slender but have powerful muscles. All these make a prolonged flight possible. Swifts' wings are used much more rapidly than the swallows'.

The nest is a hollowed bracket fastened to the rough interior of a chimney, five to ten feet from the top; is made of dried twigs cemented together with a glutinous saliva. It is not always well-built, and sometimes the entire family experience a sudden descent through the chimney.

* * * * * * * * *

Swifts feed entirely on the wing, even gathering nest material in this manner. Never perch; examine the ill-shaped, feeble feet; also the tiny, gaping, bristling mouth. They are nocturnal as well as diurnal feeders. Twitter while on the wing, but have no song.

In the evening swifts enjoy a rapid circuitous flight before roosting. As they approach the chimney they drop in one by one. They fasten their claws into the rough wall like picture hooks while they sleep. Examine the spiny-tipped feathers of the tail; the tail is used as a prop against the wall of the chimney.

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The following books have been found very helpful:

Bird Life. By Frank M. Chapman.
Birds of Village and Field. F. A. Merriam.
Birdcraft. Mabel Osgood Wright.
Field Book of Wild Birds and Their Music. F. Schuyler Mathews.
Wake Robin. John Burroughs.
Birds in Their Relation to Man. Weed and Dearborn.
The Bird Book. Fannie Hardy Eckstorm.
Bird Neighbors. Neltje Blanchan.
True Bird Stories. O. T. Miller.
Every-day Birds. B. Torrey.
How to Attract the Birds. Neltje Blanchan.
Birds That Hunt and Are Hunted. Neltje Blanchan.
Color Key to N. A. Birds. Frank Chapman.
And *The Nature Calendar. Series I. Bird Neighbors.*
Aunt Mary's Bird Talks. Ex. Pub. Co.

Arithmetic—3 A

By Ida M. Brown, P. S. No. 55, Brooklyn.

Addition. (Written.)

1. Alice is 14 years old. Her grandmother is 49 years older. How old is her grandmother?

2. Edwin lost $0.48. Then he had $0.15. How much had he at first?

3. Mr. Gray bought a horse for $92 and sold it, so that he gained $19. What was the selling price?

4. After cutting 84 inches off a piece of cloth, a dressmaker finds that the piece is 66 inches long. How long was it before it was cut?

5. How much are three dimes, a nickel, half a dime, a quarter, and $.02?

6. Jack weighs 72 pounds. Ned is 19 pounds heavier. What is Ned's weight?

7. A lady paid $9.29 for meat, $3.46 for potatoes, $2.15 for bread, $0.37 for salt, and $4.35 for coffee. What was the bill?

8. A squirrel hid away 76 chestnuts in a hollow tree and 78 hickory nuts in an old fence. How many nuts did he hide?

9. Max bought $0.52 worth of candy, and received $0.48 change. How much money did he give the storekeeper?

10. What will be the cost of half a dollar's worth of butter, and a quarter's worth of eggs?

11. The frost killed 72 plants in May's garden. After the frost she found 39 plants growing. How many were there before the frost came?

12. A well is 91 feet deep. Another is 29 feet deeper. How deep is the second?

13. A teacher received 42 new girls on promotion day, and had 15 left back. How many had she in her class?

14. What must I pay for a $96 horse and a $35 wagon?

15. Edith and Ethel are picking raspberries. Edith picks 57 pints in a week and Ethel 38 pints. How many pints did both pick?

16. After a grocer put 65 cans of corn in a box, there was room for 38 cans more. How many cans did the box hold?

Subtraction. (Written.)

17. A church spire is 83 feet high. Another is 37 feet higher, How high is the second?

18. A man travelled 89 miles one day, and the next day he went on 58 miles farther. How far did he go both days?

19. A class had in it 37 girls and 29 boys. How many children were there in it?

20. A molasses barrel had a hole in it. After 76 quarts leaked out on the floor, there were 27 quarts in the barrel. How many quarts did the barrel hold at first?

21. A man is 58 years old. How old will he be in 19 years?

22. Bessie left a store with a $0.75 book and $0.15 change. How much money had she when she went it?

23. A man bought $30.85 worth of paint for his house, and the painter charged $29.90 for his work in painting the house. What did the man pay for both?

24. A painter mixed 42 quarts of red paint with 39 quarts of blue paint to make violet. How much violet had he?

25. A grocer charged $0.36 for butter, $0.37 for coffee, a quarter for eggs, $.02 for yeast, and half a dollar for butter. What was the bill?

26. Marion got 72 per cent. in an arithmetic test and 19 per cent. higher in a spelling test. What was her spelling per cent.?

27. Florence lost $0.52 through a hole in her pocket. After that she found she had $0.29 in her pocket. How much had she at first?

28. Jack earned a quarter for shovelling snow, a dime Tuesday, a nickel Wednesday, and half a dollar Thursday. How much did he earn?

29. Frank had $0.48 in his pocket and $0.37 in his hand. How much had he?

30. 82 of Dorothy's spelling words were right, but she had 29 wrong. How many words did she write?

Subtraction. (Written.)

1. A milkman had 72 quarts of milk. 38 quarts turned sour. How many quarts remained sweet?

2. Ruth's father is 60 years old. Ruth is 48 years younger. How old is Ruth?

3. There are 365 days in a year. 170 of them are holidays. How many schooldays are there?

4. 28 girls out of a class of 60 get rewards. How many do not?

5. A lady bought a $0.32 collar and gave the storekeeper $0.50. What change should she receive?

6. A postman had 90 papers and letters. 65 of them were letters. How many papers had he?

7. Edna had a string of 81 beads. It broke, and 42 rolled on the floor. How many were on the string then?

8. A watch and chain together cost $91. The watch was $75. What was the chain?

9. A squirrel had 75 nuts hidden in a hollow tree. He ate 49 nuts during the winter. How much had he then?

10. Walter's kite was 80 feet up in the air. He pulled it down 35 feet. How high up was it then?

11. Ned weighs 81 pounds. Jack weighs 76 pounds. What is the difference in their weight?

12. If I buy $0.36 worth of medicine how much change should I receive from a dollar?

13. Elsie had 47 chestnuts. She ate all but 19. How many did she eat?

14. A bird flies 91 feet up from the ground. Another flies up but goes 17 feet lower than the first. How high did the second fly?

15. A peddler had 94 boxes of strawberries to sell. After he sold some he had 49 boxes left. How many boxes did he sell?

16. A man has 87 miles to travel. He goes 68 miles. How much farther has he to go?

17. There were 61 girls in a class. 47 were promoted. How many were left back?

18. A storekeeper wanted to put 75 cigars into a box, but the box would hold only 48. How many cigars were left out?

19. Alice and Ned have $3.25 in a toy bank. $1.58 is Alice's. How much is Ned's?

20. There were 80 pins in a paper. 46 are bent. How many are straight?

21. An old man is 82 years old. How old was he 19 years ago?

22. A man lives 75 miles from a certain city. He moves 38 miles closer to the city. How far is he from the city now?

23. A farmer has a field 92 feet long. He has another that is 36 feet shorter. How long is the second?

24. There were 86 wild ducks in a flock. 27 get shot. How many are there then?

25. Ada sewed 83 stitches. 27 were ripped out because they were not right. How many were left?

26. Two carpenters working together earned $90. One man alone earned $62. How much did the other earn?

27. A storekeeper had 77 yards of ribbon in two pieces. One piece was 29 yards long. How long was the other?

28. A piece of carpet was 58 yards long. Another piece was 39 yards shorter. How long was the second piece?

29. Jack's book contains 80 pages. Fred's is 25 pages smaller. How many pages has Fred's book?

30. If I buy a $0.28 box of candy, how much change should I receive from half a dollar?

Multiplication. (Written.)

1. How many quarts are there in 83 gallons?

2. Alice is 13 years old. Her grandfather is seven times as old as that. How old is he?

3. How many cents are there in 8 quarters?

4. How many ounces are there in 5 pounds of tea?

5. How many legs have 46 sheep?

6. A vine grows 37 inches in one month; how long will it be after 5 months?

7. Ethel had $0.23 in each of four pockets. How much money had she?

8. If some horses eat 38 quarts of oats a day, how much will they eat in a week?

9. If one bottle of ink lasts 7 days, how long will 14 bottles last?

10. How many wings have 95 sparrows?

11. How many weeks are there in 76 months.

12. Find the cost of 47 two-cent stamps?

13. If Mabel learns 52 words each month, how many will she know at the end of a term of 5 months?

14. If Will earns $8 a month, how much will he earn in a year?

15. If one school-room has 54 desks, how many desks will there be in 7 rooms?

16. May has 25 Easter baskets. Each holds 6 eggs. How many eggs has she?

17. Jack has 16 nickels. How many cents has he?

18. How many inches are there in 9 feet?

19. Fred has 5 packs of firecrackers. Each pack contains 75 firecrackers. How many firecrackers has he?

20. How many feet are there in 77 yards?

21. A bookkeeper writes 34 three-page letters. How many letters did he write?

22. How many shoes are there in 38 pairs?

23. A servant worked 63 weeks at $5 per week. How much did she earn?

24. A gardener planted 76 pansy plants in one bed. How many would he need for 6 flower-beds?

25. How many quart bottles can a milkman fill with 78 gallons of milk?

26. If an insect has 6 legs, how many legs will 46 insects have?

27. A storekeeper has 8 $20 bills. How much money has he?

28. A newsboy sells 87 newspapers every month, for a year. How much does he sell in a year?

29. If a barrel of apples weighs 83 pounds how much will 5 barrels weigh?

30. How many pint bottles will a milkman need to hold 63 quarts of milk?

Division. (Written.)

1. How many $5 bills shall I need to make $90?

2. A lady pays $0.75 for 3 boxes of strawberries. How much does she pay for 1 box?

3. How many rulers 1 yard long can a carpenter make from 81 feet of wood?

4. A vine grows 80 inches in 8 months. How much does it grow in 1 month?

5. How many weeks are there in 84 days?

6. How many 9-yard dresses can a dressmaker make with 90 yards of broadcloth?

7. How many quart bottles can a druggist fill with 56 pints of medicine?

8. Florence had $0.85. She had it changed for nickels. How many nickels did she get?

9. If a painter uses 3 quarts of paint to paint one room, how many rooms can he do with 45 quarts?

10. A store burns 5 tons of coal a day. How many days will 75 tons last?

11. How many gallon jugs will a grocer need to hold 72 quarts of vinegar?

12. If 6 girls can pick 78 quarts of berries, how many can 1 girl pick?

13. A girl picks 2 quarts of raspberries a day. How many days will it take her to pick 56 quarts?

14. A peddler had 96 bushels of potatoes to put into 8 barrels. How many bushels should go in one barrel?

15. How many 5-cent stamps should a druggist give for $0.85?

16. An iceman wants to cut a piece of ice weighing 84 pounds into 3 pieces. How many pounds should each piece contain?

17. If Edith writes 3 spelling words on a line, how many lines will she need for 72 words?

18. If a druggist can sell 6 cases of medicine for $84, what will one case sell for?

19. A florist had 96 roses to make into bouquets. Each bouquet takes 8 flowers. How many can he make?

20. If a dealer puts 6 envelopes into a package, how many packages should he make of 90 envelopes?

21. If a family uses 3 bundles of kindling wood a day, how long will 72 bundles last?

22. If Mary's grandmother can knit 6 jackets with 78 skeins of wool, how many skeins will she need for one?

23. How many gallon jars are needed to hold 56 quarts of ink?

24. If one window takes 8 panes of glass, how many windows can a glazier make with 96 panes of glass?

25. If a man pays $5 a week for some rooms, how long can he live there for $70?

26. If $90 will pay for 4 suits of clothes what will one suit cost?

27. A class has 85 words to learn in 5 months. How many words should be taken each month?

28. How many 3-pound boxes of crackers must I get to have 87 pounds?

29. A principal gets 70 library books, to be given to 5 classes. How many should each class get?

30. A man receives $92 for a month's work. How much does he get each week?

Two Operations. (Written.)

1. Jack's kite was 88 feet high up in the air. He pulled it down 12 feet and then the wind took it up 38 feet. How high up was it then?

2. Alice's sister has $0.12. Alice has five times as much money, and then finds $0.08. How much money has Alice then?

3. At $0.04 a pint what will 25 quarts of milk cost?

4. Edith is 11 years old. Her aunt is 5 times as old as that, and 6 years more. How old is the aunt?

5. A gardener had 86 rose bushes. Then he planted 56 new ones, but 17 died. How many rose bushes had he then?

6. If 3 cows cost $99 what will 4 cost?

7. In a forest there were 83 oak trees, 76 pines, 42 chestnuts, and 56 maples. A woodcutter chopped down 75 trees. How many were there then?

8. A man bought 5 forty-dollar cows and had $36 over. How much had he at first?

9. Edith expected to take 5 music lessons a month for 21 months, but was sick and missed 12. How many lessons did she take?

10. A tea merchant had 54 pounds of tea. He bought 15 pounds more, then put it all into three boxes. How many pounds were in each box?

11. Max had 6 fifty-page notebooks. He tore out 37 pages. How many pages had he then?

12. A peddler had 71 boxes of strawberries. He sold 52 boxes, and 11 spoiled. How many boxes had he then?

13. A grocer had a barrel containing 94 quarts of apples. He sold 25 quarts and put what was left into 3 baskets. How many quarts were in each basket?

14. Alice planted 8 dozen crocus bulbs. 17 did not come up. How many did?

15. Jack got $0.03 a quart for picking blackberries, and $0.15 for picking currants. How much money did he get?

16. If 4 watches cost $96 what will 7 cost?

17. A storekeeper pays $0.84 for 4c. needle books, and sells 9 of them. How many are not sold?

18. In a restaurant there were 85 quarts of clam chowder. Seventy quarts are eaten by customers, and 6 are sold to other people. How many are there in the restaurant then?

19. Jack's mother gave him $0.81 and his father gave him $0.09. Jack spent all his money for firecrackers at $0.03 a pack. How many packs did he buy?

20. Jack shot off 25 three-cent packs of firecrackers, and $0.15 worth of caps. What did they all cost him?

21. A storekeeper had 4 dozen pens, which he sold at $0.02 each. What did he receive?

22. Tom gave $0.39 for a bat and $0.27 for a kite. He gave the storekeeper a dollar bill. How much change did he receive?

23. What must I pay for 14 boxes of matches at 4c. a box and a $0.16 can of corn?

24. What will be the cost of $0.02 stamps for 36 letters, and $0.15 worth of postal cards?

25. A florist had 90 roses. He sold a dozen, and put what was left into 3 boxes. How many roses were in each box?

26. Jack's toy bank contained 3 quarters and $0.26 besides. How much money had he?

27. Dorothy saved $0.42. Her mother gave her $0.14. How many $0.04 handkerchiefs can she buy with her money?

28. Fred had $0.36; he found $0.19; he earned $0.12; his mother gave him $.03. He took all his money to the store and got it changed into nickels. How many nickels had he?

29. A milliner made 23 three-yard bows of ribbon, and used 35 yards besides to trim some hats. How many yards did she use?

30. A teacher wrote 96 words on two blackboards. Then she rubbed off 25 words from one board. How many words were on that board then?

Oral Problems.

1. How much are two quarters and a dime?
2. How many legs have nine chairs?
3. Frank bought 5 $0.05 rulers, and had $0.05 over. How much had he at first?
4. Florence is 26 years old. Her sister is 5 years younger. How old is the sister?
5. Two bundles together weigh 38 pounds. One alone weighs 10 pounds. What does the other weigh?
6. If 8 horses eat 64 bushels of oats, how much will one horse eat?
7. What must I pay for a $0.10 can of corn, an $0.08 bag of salt, a $0.02 yeast cake, and $0.20 worth of lemons?
8. Jack had 35 handkerchiefs. Two-fifths of them are dirty. How many are dirty?
9. One-sixth of May's apple is spoiled. What part of it is good?
10. If a pound of candy cost $0.16 what is the cost of an ounce?
11. How many dimes are equal to $0.50?
12. A ball of 27 yards of yarn fell on the floor. A kitten unwound two-thirds of it. How much did he unwind?
13. If one-third of a yard of velvet cost $2 what will a yard cost?
14. How many pint bottles will a milkman need for 9 quarts of milk?
15. If a man earns $36 a month how much does he get each week?
16. If I change a quarter for nickels, how many should I get?
17. A milkman sold a gallon of milk at $0.09 a quart. How much did he receive?

18. Our flag has seven red stripes. How many red stripes are there on 9 flags?

19. Jack went 20 blocks to school, and came back the same way at night. How far did he go?

20. What will be the cost of three-quarters of a pound of coffee at $0.28 a pound?

21. How much are a quarter, a dime, a nickel, and half a dime?

22. In a garden there were 25 lilies, 10 roses, 3 tulips, and 5 pansies. How many flowers were there?

23. A teacher gave out 63 report cards. One-seventh of the class did not pass. How many did not pass?

24. Jack shot a marble 8 yards. How many feet did it go?

25. A storekeeper mixed 15 pounds of peppermint candy with 20 pounds of lemon. How many pounds were in the mixture?

26. A man had $40 changed into $5 bills. How many bills did he get?

27. If I pay $6 to have a picture framed how many pictures can I get framed for $54?

28. Isabel's note book contained 42 pages. She tore out two-sevenths of them. How many did she tear out?

29. A family had 30 clams for dinner, and had 12 left that were not cooked. How many had they at first?

30. If tooth powder is $0.20 a pound, what will 8 ounces cost?

Typical Problems in 4 A Grade

By Clara M. Rosenberg, P. S. 55, Brooklyn.

First Week.

1. Bought a table for $7.25, a desk for $8, a clock for $9.50. How much change from $50? $25.25 change.

2. A man earns $800 a year. He spends $250 a year for board, $6 for carfare, $150 for clothes, $50 for amusements. How much does he save? $344 he saves.

3. Mrs. Jones' grocery bill for January was $23, February, $21.87, for March, $19.62. She paid the grocer $50. How much did she still owe? $14.49 she still owes.

4. In a menagerie there were 450 animals. There were 154 lions, 65 deer, 149 tigers, 73 panthers. The rest were elephants. How many elephants? 9 elephants.

5. A man had a bank account of $4,527. He drew out $150 at one time, $69 at another, $235 at another. How much remained? $4,073.

Second Week.

1. Bought a house for $4,000. Spent $900 repairing it. Sold it for $7,000. Find the gain? $2,100 gain.

2. Bought a farm for $675. Paid $125 for tilling it. Sold it for $950. Gain? $150 gained.

3. A horse cost $250. A carriage cost $673.50. Sold both for $1,000. Gain? $76.50 gain.

4. A man bought a flat house for $4,520. He spent $600 for repair. Sold it for $4,300. Find the loss. $820 loss.

5. Bought furniture for $400. Carpets for $127.50. Sold both for $367.25. Gain or lose, and how much? $160.25 loss.

Third Week.

1.	How many oz. in 7 lbs.?	112 oz.
2.	How many oz. in 23 lbs.?	368 oz.
3.	How many oz. in 9 lbs. 6 oz.?	150 oz.
4.	How many oz. in 14 lbs. 5 oz.?	229 oz.
5.	Change 23 lbs. 3 oz. to oz.	371 oz.
6.	Change 29 lbs. 8 oz. to oz.	472 oz.
7.	Change 34 lbs. 1 oz. to oz.	545 oz.
8.	Change 57 lbs. 3 oz. to oz.	915 oz.
9.	Change 63 lbs. 9 oz. to oz.	1,017 oz.
10.	Change 74 lbs. 5 oz. to oz.	1,189 oz.

Fourth Week.

1. At $.04 an oz. find the cost of 7 lbs. $4.48.

2. If an oz. of tea costs $.05, what will 9 lbs. cost? $7.20 cost of 9 lbs. of tea.

3. A grocer sells coffee at $.02 an oz. How much does he get for 19 lbs? $6.08 gets.

4. If pepper is worth $.03 an oz., what are 27 lbs. worth?
$12.96 cost of 27 lbs.

5. Find the cost of 34 lbs. of raisins at $.07 an oz.
$38.08 cost of 34 lbs. of raisins.

Fifth Week.

1. How many lbs. in 192 oz.? 12 lbs.
2. How many lbs. in 432 oz.? 27 lbs.
3. Change 608 oz. to lbs. 38 lbs.
4. In 756 oz. how many lbs. and oz.? 47 lbs. 4 oz.
5. A grocer has 1,333 oz. of butter. How many lbs. and oz. has he?
83 lbs. 5 oz.
6. Change 2,464 oz. to lbs. 154 lbs.
7. Change 2,528 oz. to lbs. 158 lbs.
8. Change 2,537 oz. to lbs. and oz. 158 lbs. 9 oz.
9. Change 4,323 oz. to lbs. and oz. 270 lbs. 3 oz.
10. Change 5,413 oz. to lbs. and oz. 338 lbs. 5 oz.

Sixth Week.

1. If 9 books cost $7.20, what will 5 books cost?
$4.00 cost of 5 books.

2. What will you have to pay for 8 overcoats if 7 cost $147?
$168 cost of 8 overcoats.

3. Find the cost of 9 bushels of oats if 6 bushels cost $13.68.
$20.52.

4. What must you pay for 19 rugs if 4 are worth $320?
$1,520 cost of 19 rugs.

5. 16 suits of clothes sell for $640. What will 29 of the same kind of suits sell for? $1,160 selling price of 29 suits.

Seventh Week.

1. Cost of 13 yds. at $1.63 a yd. $21.19.

2. What are 29 yds. of velvet worth at $3.25 a yd.?
$94.25 cost of 29 yds.

3. In a school there were 33 class rooms. In each class room there were 62 children. How many children in the school? 2,046 children.

4. There are 52 weeks in a year. A man earns $17.50 a week. What does he earn in a year? $910 he earns.

5. Find the value of a piece of cloth in which there are 73 yds. Each yd. is worth $1.68. $122.64.

Eighth Week.

1. If ½ of a farm costs $174.50, what is the whole farm worth?
$349 cost of farm.

2. Find the value of a lot if one-third of it is worth $73.50. $220.50 value of lot.
3. 7,594 is one-fourth of what number? 30,376.
4. What is a whole store worth if the value of one-fifth of it is $725.80? $3,629.
5. If 1,794 is one-sixth of a number, what is the number? 10,764.

NINTH WEEK.

1. If two-thirds costs $612, what will the whole cost? $918 cost of whole.
2. What is a house worth if three-fourths of its value is $1,470? $1,960 value of house.
3. If three-fifths of a number is 867, what is the number? 1445.
4. Five-eighths of a yd. of flannnel costs $1.40. What does a whole yd. cost? $2.24.
5. Five-sixths of a number is 7,460. What is the number? 8,952.

TENTH WEEK.

1. How many inches in 9 ft? 108 inches.
2. How many inches in 27 ft.? 320 inches.
3. How many inches in 6 yds.? 216 inches.
4. How many inches in 38 yds.? 1,368 inches.
5. Change 56 yds. to inches. 2,016 inches.
6. Change 143 ft. to inches. 1,716 inches.
7. Change 237 ft. to inches. 2,844 inches.
8. Change 456 ft. to inches. 5,472 inches.
9. Change 88 yds. to inches. 3,168 inches.
10. Change 107 yds. to inches. 3,852 inches.

ELEVENTH WEEK.

1. At $.05 an inch, find the cost of 5 yds. $9 cost of 5 yds.
2. What will 9 yds. of wire cost at $.02 an inch? $6.48 cost of 9 yds. of wire.
3. Find the cost of 23 yds. of ribbon at $.04 a foot. $2.76 cost of 23 yds. of ribbon.
4. What must you pay for 73 ft. of picture wire at $.02 an inch? $17.52 cost of picture wire.
5. Sold 28 yds. of linen at $.09 a foot. What did I get for the linen? $7.56 I received.

TWELFTH WEEK.

1. How many yds. in 1,728 inches? 48 yds.
2. How many yds. in 19,626 feet? 6,542 yds.
3. How many ft. in 7,848 inches? 654 ft.
4. Change 1,692 inches to yards. 47 yds.
5. Change 8,712 inches to feet. 726 ft.

6. Change 10,164 inches to feet. 847 ft.
7. Change 3,204 inches to yards. 89 yds.
8. Change 3,456 inches to yards. 96 yds.
9. Change 23,838 feet to yards. 7,946 yds.
10. Change 25,317 ft. to yards. 8,439 yds.

THIRTEENTH WEEK.

1. John has $17. Mary has 7 times as much. How much have both? $136 both.

2. 83 horses were grazing in a field. In another field there were 9 times as many horses. How many horses in both fields? 830 horses.

3. A boy earns $6.50 a week. His father earns 5 times that sum. What do both earn? $39.00 both earn.

4. A basket of fruit contains 72 pears, 4 times as many apples as pears. How much fruit in the basket? 360 apples and pears.

5. A tailor finishes 149 vests in a week. The next week he finishes 4 times. How many does he finish in both weeeks. 745 vests.

FOURTEENTH WEEK.

1. Had 29 cows. Bought 18 more. Then sold 23. How many were left? 24 cows left.

2. A farmer planted 67 bulbs at one time and 354 tulip bulbs. 159 grew. How many did not grow? 262 did not grow.

3. A man deposited $546 in the bank in June, $16.50 in September. In December he drew out $145.50. How much has he left in the bank? $417 left in bank.

4. Mr. Smith had 456 head of cattle, 13 died and 267 were sold. How many remained? 176 cattle remained.

5. In a school there were 2,725 pupils. 283 were admitted and 98 were discharged. How many remained in the school? 2,910 remained.

FIFTEENTH WEEK.

1. How many sq. in. in 3 sq. ft? 432 square inches.
2. How many sq. in. in 14 sq. ft? 6,016 square inches.
3. How many sq. in. in 26 sq. ft? 3,744 square inches.
4. Change 64 sq. ft. to sq. in. 9,216 square inches.
5. Change 87 sq. ft. to sq. in. 12,528 square inches.
6. How many sq. ft. in 14 sq. yds? 126 square feet.
7. How many sq. ft. in 38 sq. yds? 342 square feet.
8. How many sq. ft. in 167 sq. yds? 1,503 square feet.
9. Change 236 sq. yds. to sq. ft. 2,124 square feet.
10. Change 463 sq. yds. to sq. ft. 4,167 square feet.

SIXTEENTH WEEK.

1. Find the area of a ceiling in room 17 ft. by 23 ft. 391 square feet.

2. What is the area of a wall in a room 36 ft. by 47 ft.? 1,692 square feet.

3. Find the area of a floor 29 by 43 ft. 1,247 square feet.
4. Area of a board fence 17 yds. by 63 yds. 1,071 square yards.
5. Area of a floor 23 ft. by 42 ft. 966 square feet.

Seventeenth Week.

1. How many cubic inches in 2 cubic feet 3,456 cubic inches.
2. How many cubic inches in 7 cubic feet? 12,096 cubic inches.
3. How many cubic inches in 23 cubic feet? 39,744 cubic inches.
4. Change 23 cubic feet to cubic inches. 55,296 cubic inches.
5. Change 48 cubic feet to cubic inches. 82,944 cubic inches.
6. In 4 cubic yards, how many cubic feet? 108 cubic feet.
7. In 19 cubic yards, how many cubic feet? 513 cubic feet.
8. Change 36 cubic yards to how many cubic feet? 972 cubic feet.
9. Change 47 cubic yards to how many cubic feet? 1,269 cubic feet.
10. Change 163 cubic yards to how many cubic feet? 4,201 cubic feet.

Eighteenth Week.

1. Find the contents of a box 7 by 6 by 3 feet. 126 cubic feet.
2. What are the contents of a room 9 by 13 by 16 feet? 1,872 cubic feet.
3. Find the contents of a bin 3 by 7 by 10 yards. 210 cubic yards.
4. Contents of a well 5 by 3 by 12 feet. 180 cubic feet.
5. Contents of a hall 12 by 13 by 19 yards. 2,964 cubic yards.

Nineteenth Week.

1. How many $19 hats can you buy for $380? 20 hats.
2. At $27 each, how many sofas can you buy for $1,080. 40 sofas.
3. How many dinner sets can you get for $3,162 if one set is worth $93. 34 dinner sets.
4. At $1.68 a yard, how many yards of velvet can you get for $95.76? 57 yards.
5. A man wishes to invest $12,000 in land which sells at $25 an acre. How many acres can he get for his money? 96 acres.

Twentieth Week.

1. A merchant sold 14⅝ yards of cloth, 16¼ yards of silk, 20½ yards of muslin. How many yards did he sell? 51⅜ yards he sold.
2. A carpenter earns $1⅛ on Monday, $6 2-3 on Tuesday, $1 1-6 on Wednesday, $4 1-5 on Thursday, $3⅞ on Friday and $1 5-6 on Saturday. How many does he earn that week? $18.86 2-3 (Fractions changed to cents).
3. A grocer sold 45 1-3 bushels of potatoes, 16 5-6 bushels of corn, 18½ bushels of rye. How many bushels did he sell in all? 80 2-3 bushels.
4. In a piece of goods there were 456 2-3 yards. 198 yards were sold. How many yards remained in the piece? 258 1-6 yards.
5. A lady paid a bill of goods of $1⅛, $7 5-6, $9 2-3, $4⅞, $6 1-5, $5¼. What was the amount of her bill? $34.95 amount of the bill (fractions changed to cents).

Written Arithmetic—4 A Grade

Typical Examples in the Four Operations for the First Twelve Weeks.

ADDITION.

First Week.

Columns add to 20.
(15-16-17-18-19-20.)

486	$2.46
203	90.07
2,012	.30
250	.20
1,301	53.01
7,001	1.00
4,302	10.50
	.23
15,555	$166.77

Second Week.

Columns add to 25.
(21-22-23-24-25.)
Add. of halves.

20,532	$546.19	312½
25,023	50.87	29½
809	132.84	963½
10.637	95.12	75½
9,070	9.22	853
15,040		10½
81,111	$834.24	2,194½

Third Week.

Columns add to 30.
(26-27-28-29-30.)
Add. of halves and faurths.

13,529	$156.86	893½
8,587	17.49	67¼
6,923	145.52	805½
10,082	16.28	95½
7,656	23.64	47
46,777	$359.79	1,908¾

Fourth Week.

Columns add to 35.
(31-32-33-34-35.)
Add. of halves, fourths and eighths.

16,495	$600.86	725½
8,078	95.19	187¼
17,895	57.87	96⅛
8,020	96.15	147½
10,619	8.97	95½
804	85.40	
61,911	944.44	1,251⅞

61,911 $944.44

Fifth Week.

Columns add to 40.
(36-37-38-39-40.)
Add. of halves, fourths and eighths.

35,957	$246.54	509⅜
8,098	158.78	759½
14,675	96.59	656¼
8,547	98.96	98⅜
953	113.87	706½
46	75.25	80⅜
401		80¼
68,677	$789.99	2,890⅝

Sixth Week.

Columns add to 45.
(41-42-43-44-45.)
Add. of halves, fourths and eighths.

20,856	$389.56	$87.68⅜
8,937	80.98	8.95¾
9,659	9.67	6.57½
10,896	108.95	8.79⅞
9,575	67.39	6.58⅝
8,088	86.54	3.95¾
2,201	1.25	
70,212	$744.34	$122.55⅞

Seventh Week.

Columns add to 50.
(46-47-48-49-50.)
Add. of halves and sixths.

13,898	$198.99	289
4,959	87.68	196 1-6
10,898	119.57	98½
9.657	98.95	177
8,654	186.86	87 5-6
9,789	87.09	59½
9,033	20.85	
66,888	$799.99	908

Eighth Week.

Columns add to 54.
(50-51-52-53-54.)
Add. of thirds and sixths.

$185.79	19,889	109
96.98	8,959	276 1-6
187.87	6,798	187 1-3
95.96	5,987	198
89.59	21,856	89 5-6
109.87	9,599	95
44.05	9,124	187 2-3
$810.11	82,212	1,143

Ninth Week.

Columns add to 58.
(54-55-56-57-58.)
Add. of halves, thirds and sixths.

$290.98	18,669	190
79.96	8,778	87 1-3
88.87	19,697	169 5-6
69.85	8,959	118
137.39	14,854	39 2-3
55.59	10,896	87
99.89	8,959	96½
54.24	7,066	59
$876.77	97,878	847 1-3

TENTH WEEK.

Columns add to 62.
(58-59-60-61-62.)
Add. of halves and thirds.

$189.59	19,895	185
96.98	8,989	87½
85.97	7,697	76
189.96	18,958	195 2-3
98.87	9,695	87½
38.59	7,859	89 1-3
27.96	16,858	96½
83.09	2,029	19
	222	
$811.01		836½
	92,202	

ELEVENTH WEEK.

Columns add to 66.
(62-63-64-65-66.)
Add. of halves, fourths, eighths.
Add. of thirds, halves, sixths.

$55.62	19,598		
195.28	8,987	$9.54½	22
87.89	19,989	5.99¾	189 1-3
96.98	8,959	8.69¼	98 1-6
189.95	9,879	6.97½	78 5-6
98.97	7,698	6.79	99 2-3
169.89	1,895	8.97¾	89 1-3
59.88	549	9.89	99 5-6
.09	9,012	8.68½	89 1-3
$954.55	86,566	$65.54¼	766½

TWELFTH WEEK.

Columns add to 70.
(66-67-68-69-70.)
Add. of fractions.

$159.97	9,395	39	$.63	96	$1.97⅛	69
89.96	9,896	406 1-3	8.95½	809¼	.49	73 1-6
195.87	9,877	87 1-3	.89½	78¾	.39⅛	809 1-6
96.95	8,959	96 2-3	1.09½	69¼	.87⅞	95 5-6
149.59	18,999	78 1-3	7.86½	87¾	6.59⅝	78 1-6
97.98	9,989	96 1-3	.87½	95¾	.97⅛	89 1-6
99.95	1,877	89 1-3	.69½	66¼	.89⅛	98 1-6
87.47	9,899	79 1-3	.87½	89¼	.95⅞	88 5-6
.09	2,009	83 1-3	.88½	96¼	.84⅛	98 5-6
2.06						
	80,900	1,066	$22.77	1,488½	$13.99	1,500 1-3
$979.89						

SUBTRACTION.

FIRST WEEK.

4,097	$6,000	$30.00
— 3,289	— 1,789	— .03
808	$4,211	$29.97

SECOND WEEK.—Fraction: — ½.

25,067	$500.05
— 18,959	— 17.96
6,108	$482.09
36,504½	$600.00½
— 7,007	— 60.06½
29,497½	$539.94

THIRD WEEK.—Fractions: ½ — ½ and ½ — ¼.

95,007	$500.00
— 67,959	— .05
27,048	$499.95
52,606½	$400.07¼
— 12,908¼	— 389.65¼
39,698¼	$10.42

FOURTH WEEK.—Fractions: ½ — ⅛, ¼ — ⅛, ½ — ¼.

60,707	$450.59
— 54,696	— 325.28
6,001	$125.31
$652.54½	53,053¼
— 521.27⅛	— 3,802⅛
$131.27⅜	49,251⅛

Fifth Week.—Fractions: ⅜ — ¼, ½ — ⅜, ½ — ⅛, ½ — ¼, ¼ — ⅛.

80,808	$500.00
— 54,792	— 54.45
26,016	$445.55
26,078⅜	$430.03½
— 19,436¼	— 95.48⅜
6,642⅛	$334.55⅛

Sixth Week.—Fractions: ⅞ — ½, ⅞ — ⅝, ¾ — ⅜, ⅞ — ¼, ⅞ — ¾, ¾ — ½, ⅞ — ⅛, ¾ — ⅝, ¾ — ⅛.

92,097	$650.05
— 86,549	— 495.86
5,548	$154.19
26,576⅞	45,005¾
— 24,328½	— 16,782⅛
2,248⅜	28,223⅝

Seventh Week.—Fractions: ½ — 1-6, ½ — ⅜, ⅝ — ½, 5-6 — ½, ⅞ — ½, ½ — ¼, ⅞ — ¼, ⅝ — ¼.

45,050	$300.00
— 15,659	— 3.13
29,391	$296.87
88,504½	$200.20 5-6
— 29,438 1-6	— 7.19½
59,066 2-6	$193.01 2-6

Eighth Week.—Fractions: 1-3 — 1-6, 5-6 — 2-3, 5-6 — 1-3, 2-3 — 1-6.

78,950	$354.05
— 16,957	— .87
61,993	$353.18
$540.85 1-3	44,056 5-6
— 486.58 1-6	— 17,968 1-3
$54.27 1-6	26,088½

Ninth Week.—Fractions: ½ — 1-6, 2-3 — 1-6, 5-6 — 2-3, 5-6 — 1-3, 1-3 — 1-6, 5-6 — ½.

88,090	$257.14
— 37,456	— 88.96
50,634	$168.18
$128.37½	95,090 2-3
— 19.54 1-6	— 17,857 1-6
$108.83 1-3	77,233½

Tenth Week.—Fractions: 2-3 — ½. Rev. ½ — 1-3 other fractions.

99,087	$327.59
— 54,516	— 87.03
44,571	$240.56
$129.58 2-3	84,404½
— 18.19½	— 7,504 1-3
$111.39 1-6	76,900 1-6

Eleventh Week.—Halves, fourths, eights, thirds, sixths,. Subt. of a mixed no. from a whole no.

87,059	40,004
— 18,643½	— 13,828 1-3
68,415½	26,175 2-3
$573.18	$459.05
— 29.56¼	— 87.88 5-6
$543.61¾	$371.16 1-6

Twelfth Week.—Halves, fourths, eights thirds, sixths. Sub. of a mixed no. from a whole no. with 0 in the unit's place.

95,090	85,040
— 9,999¾	— 17,402½
85,090¼	67,637½
$600.00	40,000⅞
— 6.66	— 1,405⅛
$593.34	38,595¾

MULTIPLICATION.

First Week.—Multiply by 2 orders.

305	$4.57	654	$6.83
× 15	× 29	× 38	× 47
1525	4113	5232	4781
305	914	1962	2732
4575	$13253	24852	$32101

Second Week.—Multiply by 3 orders to 400.

854	$9.53	816	$9.58
× 115	× 127	× 139	× 369
4270	6671	7344	8622
854	1906	2448	5748
854	953	816	2874
98210	$1210.31	113424	$3535.02

THIRD WEEK.—Multiply by 3 orders to 700.

703	$5.70	459
× 415	× 549	× 658
3515	5130	3672
703	2280	2295
2812	2850	2754
291745	$3129.30	302022

FOURTH WEEK.—Multiply by 3 orders to 1,000.

857	486	$8.57
× 725	× 869	× 989
4285	4374	7713
1714	2916	6856
5999	3888	7713
621325	422334	$8475.73

FIFTH WEEK.—Multiply by a mixed no.—one order—½.

354	$80.75
× 1½	× 8½
177	4037½
354	64600
531	$686.37½

SIXTH WEEK.—Multiply by a mixed no.—2 orders— 1-3.

795	$8.79
× 58 1-3	× 94 1-3
265	293
6360	3516
3975	7911
46375	$829.19

SEVENTH WEEK.—Multiply by a mixed no.—2 orders—¼.

$500	875
× 29¼	× 96¼
125	218¾
4500	5250
1000	7875
$146.25	84218¾

EIGHTH WEEK.—Multiply by a mixed no.—2 orders— 1-5.

$5.37	658
× 27 1-5	× 89 1-5
107 2-5	131 3-5
3759	5922
1074	5264
$146.06 2-5	58693 3-5

NINTH WEEK.—Multiply by a mixed no.—2 orders—1-6.

358	$8.53
× 18 1-6	× 67 1-6
59 2-3	142 1-6
2864	5971
358	5118
6503 2-3	572.93 1-6

TENTH WEEK.—Multiply by a mixed no.—2 orders— 1-8.

659	$9.23
× 37 1-8	× 95 1-8
82 3-8	115 3-8
4613	4615
1977	8307
24465 3-8	$878.00 3-8

ELEVENTH WEEK.—Multiply by a mixed no.—2 orders—2-3.

853	$3.59
× 27 2-3	× 67 2-3
3) 706	3) 718
568 2-3	239 1-3
5971	2513
1706	2154
23599 2-3	$242.92 1-3

TWELFTH WEEK.—Multiply by a mixed no.—2 orders— 3-4.

$9.46	590
× 45¾	× 83¾
4) 2838	4) 1770
709½	442½
4730	1770
3784	4720
$432.79½	49412½

DIVISION.

First Week.—Long div. by 2 orders with 1 or 2 in unit's place.

$150\frac{58}{61}$ Ans.
61) 9208
61
———
310
305
———
58

$.85$\frac{37}{82}$
82) $70.07
656
———
447
410
———
37

Second Week.—Long div. by 2 orders with 3, 4, 5 in unit's place.

4.89\frac{25}{93}$
93) $45502
372
———
830
744
———
862
837
———
25

$272\frac{3}{75}$
75) 20403
150
———
540
525
———
153
150
———
3

Third Week.—Long div. by 2 orders with 7 or 8 in unit's place.

$900\frac{4}{37}$
37) 33304
333
———
04

10.23\frac{40}{88}$
88) $900.64
88
———
206
176
———
304
264
———
40

Fourth Week.—Long div. by 2 orders with 8 or 9 in unit's place.

9.23\frac{73}{98}$
98) $90527
882
———
232
196
———
367
294
———
73

$798\frac{43}{79}$
79) 63085
553
———
778
711
———
675
632
———
43

Fifth Week.—Long div. by 3 orders within 150.

$776\frac{62}{107}$
107) 83094
749
———
819
749
———
704
642
———
62

5.03\frac{90}{139}$
139) $700.07
695
———
507
417
———
90

Sixth Week.—Long div. by 3 orders within 200.

$116\frac{160}{162}$
162) 18952
162
———
275
162
———
1132
972
———
160

466\frac{37}{198}$
198) $92305
792
———
1310
1188
———
1225
1188
———
37

Seventh Week.—Long div. by 3 orders within 250.

$65\frac{163}{213}$
213) 14008
1278
———
1228
1065
———
163

$303\frac{43}{249}$
249) 75490
747
———
790
747
———
43

Eighth Week.—Long div. by 3 orders within 300.

3.34\frac{164}{276}$
276) $923.48
828
———
954
828
———
1268
1104
———
164

$74\frac{164}{293}$
293) 21846
2051
———
1336
1172
———
164

(Continued in December number.)

How We Voted in the School Room--4 B

By Carrie H. Stayley, P. S. No. 91, Brooklyn, N. Y.

While I was teaching the children of the fourth year I remember asking them at an election time if they knew how their fathers expected to vote. All but one answered in the affirmative. When I asked him why he did not know, his reply was, "He doesn't know who'll give him the most money for his vote yet." This showed clearly that these children of foreign parentage needed training along the line of right citizenship; and before the next election day came my plan had been mapped out.

At the time of the fall primaries we talked of the method of conducting them, and of their object; of what was meant by representatives and delegates; how one man could act for the people in his district, and so on. We watched for the meetings of these delegates who had been elected at the primaries, so that we could learn whom they had nominated for the offices of the city, state or nation.

The class were interested, girls as well as boys; for they were told that in some states the women had the privilege of voting, and that it was right that our girls should learn as much about the methods of conducting an election as the boys.

A copy of the Election Laws of the State of New York was procured for the asking, and a little time each day was given to its study.

First of all we found who were eligible to vote; what debarred some from exercising this privilege. We learned how old a man must be to cast his first vote. If not a native-born American, what was to be done to naturalize him: in fact any and every question that could come up under this head was looked into.

We found that the city is divided into assembly districts composed of one or more wards according to the population of the wards. These assembly districts are sub-divided into election districts, each of which has a given number of voters, so that all may have the privilege of voting within the given time.

As but one class was receiving instruction along this line, we called our class-room the assembly district and took the number of the district in which the school-house was located.

The three sections of desks were the three election districts and the children were the voters from these districts.

A placard was prepared with the inscription "Registry of Voters." This was hung upon the class-room door on the days that the men in the city registered. As called for by the Election Laws a registration sheet was in readiness; two clerks were appointed from both the Republican and the Democratic parties to enter the names upon the sheet of all who wished to vote. This registration was done after school hours, thus making it optional with the child whether he registered or not.

The interest grew as the days passed; the children were urged to find the reasons why the father and brother were going to vote for the man of their choice.

On Friday mornings, when we devoted a half-hour in studying the characteristics of good citizenship, we would gather together what had been learned along the line of the candidates during the week. Often the children would bring clippings from the newspapers concerning them.

The voting was done on the Monday preceding election day. This was important enough to be done during school time, and we devoted the last hour to it.

At that time there were appointed poll clerks, ballot clerks, and canvassers. Those who had acted as clerks during registration were the inspectors. These clerks were chosen from both political parties, an equal number from each.

This part of the work and throughout the voting and counting of the ballots was attended with great seriousness. We had learned that it was no light thing to cast a ballot for the rulers of our city and nation, or for the representatives at state or national capital. It meant that we intended to put in the men whom we thought to be the best fitted for the offices, and we gave our pledge to do all we could to uphold the government which they represented.

At the rooms of the Board of Elections we secured all the sample ballots we needed. The class was instructed as to the folding of the ballot and marking of the same. It was impressed upon them that any mistake in either of these two things would forfeit the ballot.

When the polls were declared "open" the class was turned over to the clerks, and so intensely interested were they all that the discipline maintained itself.

The wardrobe was the private voting-booth. The voters from each district would file from their seats and form a line at the side of the room. A ballot clerk from each party stood at the door of the booth and handed the voter a ballot and pencil, as she or he entered.

Only one person could occupy the booth at a time. He would go in and as soon as the door was closed would mark his ballot, fold it, and place his register number upon the outside. When he came out, he passed to the poll clerk's desk. There he gave his registration number; this was compared with the registration list. He answered the customary questions, and if all was satisfactory, he passed his ballot to the clerk who tore the stub off and placed the remainder in the receptacle.

All went well until a voter appeared before the poll-clerks who had not registered. The inspectors were quick to see that his name was not upon the list and his vote was challenged. He was taken before the referee (the principal). The challenger stated his charge, it was sustained, and the would-be voter lost his ballot.

This was not premeditated. The children knew that they must register in order to vote. The inspector knew that this one was not eligible and simply did his duty.

After all had voted the polls were declared "closed," and the canvassers retired to count the votes. They were quick to see any mark other than the right one upon the ballot, and discarded all such with those that were folded wrong.

The result of the election was given to the principal who announced it, officially, to the class.

A copy of this result was written out and signed by the poll and ballot clerks and put on file in the principal's office. In succeeding years the same procedure has been followed.

Among the benefits of holding these elections has been the close sympathy which existed between the school and home. The parents have expressed their appreciation of the fact that the boys are gaining practical knowledge of these things which will help them toward an intelligent use of their privilege of voting when they can exercise it legally.

The mistakes which have occurred at the polls by which their votes have been challenged have also been helpful object lessons.

At one time a boy had registered whose father had not taken out his naturalization papers, though he expected to do so in time to vote. The child was allowed to register on the strength of the father's intention.

The inspectors remembered this and when the boy presented his ballot, it was challenged: he claimed that he could vote because he had registered—but the inspector said "No." The case was referred to the judge, and it was found that the boy was in the wrong. His vote was lost.

An interesting incident happened one year.

We were unable to get our ballots, although they had been promised and we hoped to receive them ere it was time to vote. The clerks were greatly exercised and came to me to know what could be done. We consulted the Election Laws and found one which covered our case, so we made our own ballots. When the children told this at home it aroused some comment from a few of the parents as to the legality of the proceeding. When the children came in the next day they told what the home folks had said and asked for a copy of that law; so a number of them made copies and took them home, and more than one father sent his thanks to us.

The thought which we try to keep before the members of our little community is,

"Every citizen should be ready to do his full part in the service of the community in which he lives."

By the unconscious absorption of the import of this thought we are hoping that the seed will ripen to full fruition when the days for them to choose men to fill public offices shall come.

Hygiene—4 B Grade

By Elizabeth R. Brady, P. S. 55, Brooklyn.

First Month.

First Week.

General structure of the body. Important parts.

a. Skull, containing brain.

b. Trunk, containing heart, lungs, stomach, liver, intestines.

c. Arms and legs.

Second Week.

Bones.

a. Shape.

1. Long, as in arms and legs.
2. Short, as in fingers and toes.
3. Flat, as in skull and ribs.
4. Round, as in ankles and wrists.

b. Number, two hundred and six.

c. Uses.

1. To keep the shape of the body. 2. To support soft parts. 3. To protect vital organs. d. Difference between those of young and adult.

Third Week.

Bones—(Continued.)

a. Care of the bones. 1. Standing. 2. Sitting. 3. Walking. 4. Lying. Keep shoulders even, backs straight and chests out. b. Spinal curvature resulting from incorrect sitting. c. Ill effects of. 1. Tight clothing. 2. Improper boots and shoes. 3. Alcohol, tobacco, opium.

Fourth Week.

Muscles:

1. What they are: Bundles of lean meat or those parts of the body which help it move. 2. Shapes. Large and small. 3. Kinds. a. Voluntary, controlled by the will, as in arms, legs. b. Involuntary, not controlled by the will, as in stomach. 4. Uses. a. They produce motions of the body. b. They generate the heat which keeps the body warm. 5. Effects of alcohol on the muscles.

Second Month.

First Week.

Muscles.—(Continued.)

1. Care of the muscles. a. Necessity of exercise. b. Necessity of rest. 2. Effects of inactivity. Joints. 1. What they are: The parts of the body which we can bend. 2 Kinds. a. Hinge, as in elbow and wrist. b. Ball and socket, as in shoulder and hip. 3. Injury to joints. Ligaments. Stout bands of muscle which hold the joints together.

Second Week.

Organs of Respiration.—Lungs.

1. Location. In the chest; two, on either side of the heart. 2. Size. Left lung a little smaller than right. 3. Protection. Ribs. 4. Uses. a. To furnish oxygen to the body. b. To purify the blood.

Third Week.

Respiration—(Continued.)

1. Care of the lungs. a. Fresh air. Ventilation. b. Plenty of room to work in. 2. Effects of tight clothing. 3. Effects of alcohol. 4. Correct breathing habits. 5. Consumption.

Fourth Week.

Alcohol:

1. Physical effects. Causes disease, degradation, misery and crime. 2. Mental effects. Weakens the will power. 3. Effects on organs of body.

Tobacco:

1. Effects. a. Prevents healthy nutrition of the structures of the body. b. Makes a person dull. c. Offensive breath.

THIRD MONTH.

First Week.

Organs of Digestion:

1. Mouth digestion, aided by the teeth. Chewing, grinding, saliva. 2. Stomach digestion. a. Effects of gastric juice on food. b. Effects of irregular habits of eating. c. Effects of unwholesome food. 3. Intestinal digestion. a. Pancreatic juice. b. Liver, bile.

Second Week.

Teeth:

a. Structure. 1. Crown or top. 2. Fang or root. 3. Neck, or portion between the crown and root. b. Covering. c. Kinds. 1. Incisors. 2. Canines. 3. Bicuspids. 4. Molars. d. Care of teeth. 1. Effects of cracking nuts with teeth.

Third Week.

Good food:

That which supplies the body with heat, weight and strength. 1. Healthful foods. Those which promote health and growth. a. Mineral foods. Salt, lime, soda, potash, iron. b. Animal foods. Milk, butter, cheese, eggs, meats. c. Vegetable foods. Bread, fruits, candy, preserves. 2. Unhealthful foods. a. Diseased foods. 1. Animal and vegetable. b. Adulterated foods. c. Decayed foods. 3. Cooking. 4. Habits of eating. a. Avoid eating when tired. b. Eat regularly and slowly. c. Rest after a hearty meal.

Drinks:

1. Stimulating. a. Tea and coffee. 2. Nourishing. a. Milk and cocoa.

Fourth Week.

Skin:

The covering of the body. 1. Kinds. a. Scarfskin. It contains no nerves nor blood vessels. b. True skin. It contains nerves, blood vessels, sweat tubes, oil glands, hair and fat cells. When hurt a scar is left. 2. Uses. a. It protects the body. b. It removes waste matter. c. It regulates the temperature of the body. 3. Care of the skin.

FOURTH MONTH.

First Week.

Cleanliness:

1. Bathing. a. Removes scarf skin scales and waste matter from the perspiratory glands. b. Stimulates the circulation of the blood. 2. Clothing. a. Use. To make the body comfortable. b. Effects of tight clothing on the body.

Second Week.

Nails:

They grow out of little pockets in the skin. 1. Use. a. Give firmness and protection to ends of finger and toes. b. Aid in picking up small objects and untying hard knots. 2. Care of the nails. 3. Hang nails.

Third Week.

Hair:

It grows from pockets in the skin. The roots are in the true skin. 1. Kinds. a. Long and coarse; head. b. Short and soft; arms. 2. Colors. 3. Use. a. Protects from cold and injury. 4. Care. a. Frequent shampooing. b. Daily brushing. 5. Danger of dyes.

Fourth Week.

Nose:

Upper part, organ of smell. Lower part is one of the air passages. 1. Shapes. 2. Kinds. 3. Use. To detect odors. 4. Care.

FIFTH MONTH.

First Week.

Ear:

The sense of hearing. 1. Outer or external ear. a. Shape—a sort of funnel. b. Location. c. Use. Catches sound. 2. Middle ear. a. Ear drum. A little cavity in the solid bone of the side of the head. 3. Internal ear.

Second Week.

Ear.—(Continued.)

1. Care of the ear. a. Effects of using toothpicks, hairpins, etc., on the ear. 2. Ear wax.

Third Week.

Exercise:

It stimulates growth. It makes growth symmetrical. It develops skill, quickness, accuracy, strength and endurance. It incites the organs to do their best work. It acts as an incentive to the best mental work. Kinds at different ages. Precautions: a. Exercise should be taken regularly. b. Violent exercise should not be indulged in within half an hour before eating, nor two hours after eating a hearty meal. c. Increase in exercise should come gradually. d. Clothing during exercise should be light and loose fitting. e. Avoid catching cold.

Fourth Week.

General review.

Arithmetic—Grade 5 A

By Mary Woodlock, P. S. 21, Brooklyn.

Owing to the precision with which the work of each grade fits into that of the next, a thorough familiarity with the Syllabus in Arithmetic from 1A up, will be found a great aid to correct presentation in 5A.

It will be noticed that in each grade some particular aspect of the work is emphasized. The aim of the course in 5A is to produce a mastery of the mechanism and practical application of common fractions.

Each onward step in the teaching of fractions must be illustrated objectively. The child has been dealing with fractions since his 2A days, so there is no lack of foundation upon which to build. But his ability to grasp abstractions is still in embryo, so the teacher will find her difficulty, in connecting with the apperceptive mass, lessened, if she uses blackboard illustrations constantly, or, better still, paper rectangles, squares, and circles, that can readily be divided.

Reviews should be incidental and always conducted so as to present some new aspect of the principle involved. This will save the child from that weariness of spirit which comes upon him when he imagines that he is merely going over "the same old thing."

The use of short methods should be insisted upon. It will take time and effort to make the pupil understand that cancellation, for instance, is not a thing apart, but that it can be used to smooth the way in the solution of many problems. To this end *it would be well to require an indication, by signs, of the process to be followed, before beginning the actual work of solution.* This may seem an irksome burden to the boy who evolves the correct answer from a seeming jumble of figures, but it will give him good training in method. It will be an invaluable help to his brother who gazes on the slightest unfamiliarity of aspect in a question with a mind almost as blank as his face.

Why are we not more particular about the wording of oral explanations? Some of our pupils seem to have the impression that good English is sacred to the language period, and should never be used at any other time.

In the following outline the oral work has not been taken separately. The same type of example can be used as for the written work. The figures should, of course, be smaller, and the *work should be kept somewhat in advance of the written.* The oral work should serve as a foundation on which to build the advance work laid out for the day. Much of the review work in measures should be done orally. It should be remembered that emphasis on one measure should not consign the others to oblivion, or it may happen that while we reach after Cubic measure, Square and Long may escape from the basket and roll down hill.

TERM PLANS.

First Month.

Business fractions: $½, $¼, $⅛, $¾.

Addition and subtraction of common fractions.

Definitions reviewed: fraction, common fraction, numerator, denominator, proper fraction, improper fraction, mixed number.

L. C. M. developed and applied.

G. C. D. developed.

Circles divided to show that division of the numerator and the denominator by the same number does not alter the value of the fraction.

Definitions: multiple, L. C. M., factor, prime factor, divisor, G. C. D.

Measures: review Cubic Measure, Develop Dry Measure.

SECOND MONTH.

Business fractions: $⅓, $⅔, $⅜, $⅝.

L. C. M. continued.

G. C. D. continued.

Reduction of common fractions to their lowest terms.

Bills involving the use of business fractions.

Measures: review Square Measure, Teach Circular Measure.

Definitions: circumference, diameter, arc, angle, degree, perpendicular line, right angle, acute angle, obtuse angle.

Areas of rectangles.

THIRD MONTH.

Business fractions: $1/16, $1/12, $⅙, $⅛.

Divide circles to show multiplication of numerator and division of denominator.

Multiplication of common fractions.

Multiplication defined.

Cancellation.

Addition and subtraction of decimals. Relation to common fractions.

Review Linear Measure. Develop Liquid Measure.

FOURTH MONTH.

Business fractions: $⅚, $⅞.

Reduction of decimals to common fractions.

Multiplication of decimals by integers.

Circles divided to show division of numerator and multiplication of denominator.

Division of common fractions.

Division defined.

Measures: review Weight. Develop Time.

FIFTH MONTH.

Business fractions: review all.

Division of decimals by integers.

Changing common fractions to decimals.

TYPICAL EXAMPLES.

FIRST MONTH.

Business fractions:

At $.50 each find the cost of 468 chickens.

At two yards for $1, how many yards of silk can be bought for $395?

How many pounds of candy can be bought for $263, if it is $.50 per lb.?

Grocer had 100 barrels of flour. How many left after 20 barrels were sold? What part of the whole number?

To how many boys can I give $.75 each if I have $12?

L. C. M.

By inspection.

By method.

Application:

A florist when decorating a hall found that he had just enough roses to enable him to put either 12, 15, or 18 roses into each vase. How many roses did he have?

Some boys formed a company and found they could march 3, 4, or 5 abreast in full ranks. What is the least number of boys that could have been in the company?

A rectangle is $\frac{1}{6}$ ft. on one side, $\frac{3}{8}$ ft. on another side. What is the length of its perimeter?

A horse travelled 48 $\frac{3}{10}$ mi. one day, 56¾ the next, 40 $\frac{13}{15}$ mi. the next, and 45$\frac{27}{40}$ mi. the last. How far did he travel?

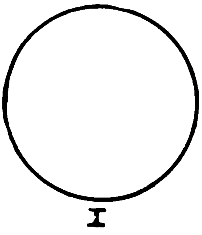
What part of a barrel of flour remains after ½, $\frac{1}{15}$, and $\frac{2}{35}$ have been used?

A 160-acre farm consists of five fields. The first contains 17$\frac{3}{5}$ acres, the second 29¼ acres, the third 35 $\frac{7}{20}$ acres, the fourth 22 $\frac{8}{25}$ acres. How many acres in the fifth field?

Division of Circles.

Draw a circle (I.) Take $\frac{2}{4}$ of it (II.)

Our fraction is $\frac{2}{4}$. Divide the numerator by 2 (III.)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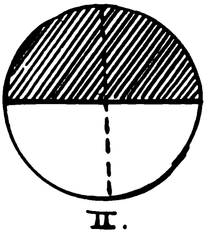
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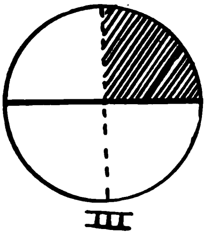
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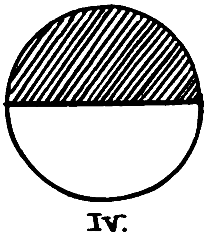
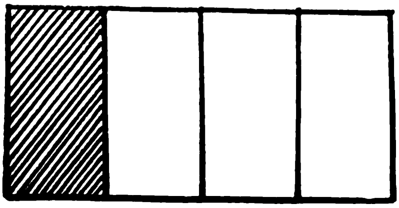
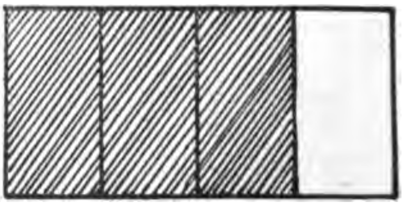

IV.

Result ¼, a decrease in the value of the fraction. But divide the denominator also by 2 (IV.) Result: ½, the fraction at its original value. Therefore, to divide the numerator and the denominator by the same figure does not alter the value of the fraction.

G. C. D. By inspection. By method.

Application: What part of 4 is 1?





What part of 4 is 3?

What part of 28 yards is 14 yards?

Seventy-two dollars is what part of $981?

A hall 35 ft. long and 15 ft. wide was divided into rooms. One room was 20 ft. long and 10 ft. wide. What part of the whole space did it occupy?

Farmer owned 578 horses. He sold 340 of them. What part of the whole number did he have left? (Reduce the answer to its lowest terms.)

Dry Measure.

From 2 bushels of beans, 1 peck was taken. How many bushels left?

At $.80 a peck find the price of 1 quart.

A man feeds his horse 36 qts. of oats a day. How long will 120 bushels last him?

Bought wheat at $.85 a bushel and sold it at $.29 a peck. What was the gain on 58 bushels?

I can buy a quart of cherries for $.12. At that rate what should I pay for 7 bu.?

SECOND MONTH.

Make out and receipt a bill for the following:

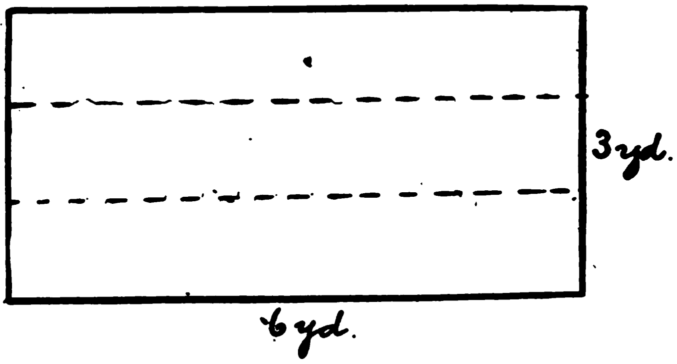
72 hats @ $1.25 ea.
18 yds. ribbon @ $.75.
32 yds. silk @ $1.20.
33 prs. shoes @ $3.33⅓.
25 hatpins @ $8.00 per 100.
9 pincushions @ $.25 for 3.

Areas of rectangles.

How many sq. ft. in a field 125 ft. long and 87 ft. wide?

What will be the cost of carpet at $1.66⅔ per sq. yd. for a room 6½ yds. long and 15 ft. wide?

How many strips of carpet 1 yd. wide will be needed for this room?



How many strips of carpet 1 yd. wide for a room 15 ft. wide?

I have 87 sq. yards of carpet. How many more must I buy to carpet a room 13 yds. long and 36 ft. wide?

A curtain is 62 in. long and 28 in. wide. How many square yards in 6 pair.

How many rectangular pieces of cardboard 9 in. by 12 in. can be cut from a square yard of cardboard?

Circular Measure.

How many minutes in 7° 16′?

At what hours do the hands of a clock form right angles?

Divide a circle into four equal parts by means of diameters. How many right angles have you formed?

Divide a pie equally among six boys. What kind of angles are formed at the centre?

Draw a circle in pencil. Use ink to indicate an arc.

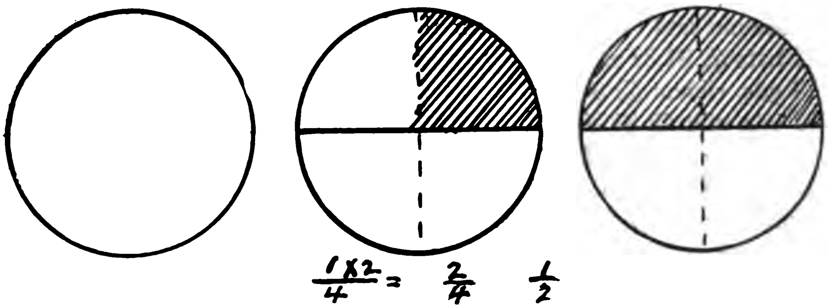
The radius of a Ferris wheel is 125 ft. How far above ground would you be when your car reached the top?

THIRD MONTH.

Division of circles.

Take a pie.

Cut it into fourths.



Take ¼ of the pie.

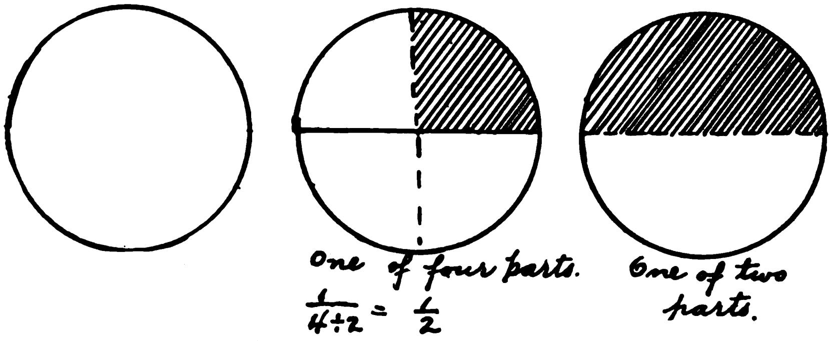
Multiply the numerator by 2.

We still have four parts, but instead of having one of four, we have

Result: $\frac{2}{4}$ or ½.

Therefore, multiplying the numerator, increases, or multiplies the fraction.

Take another pie.



Divide it into fourths.

Take ¼ of it.

Divide the denominator by 2. You have still one part, but it is one of two parts instead of one of four parts.

Result: ½.

Therefore, dividing the denominator increases, or multiplies the fraction, or, in other words, we can increase our share of pie either by taking more pieces or by increasing the size of the pieces.

Therefore, also, multiplication of the numerator has the same effect upon a fraction as division of the denominator.

Multiplication of Fractions.

Multiplication is the process of taking one number as many times as there are units in another.

Application:

A man worked six days at $2¾ per day; his son got $1¾ per day, for 5 days; his daughter got $⅘ per day, for 4 days. What were their total earnings?

A yard of cloth cost $¾. What will ⅝ yd. cost?

Divide the product of 4, 7, 19, 21, and 64 by the product of 4, 38, 28, 3, 96.

Perform indicated operations:

$$\tfrac{1}{4} \text{ of } (5\tfrac{1}{9} - 3\tfrac{3}{5})$$

If Mr. A. buys ¾ of the share of Mr. B., who owns $\frac{5}{16}$ of a farm, and then sells ⅔ of what he buys to Mr. C., what part of the farm does Mr. C. own?

The length of a rectangular picture frame is 3⅘ in., the width is 4½ in. What is the area of the opening?

Addition and Subtraction of Decimals.

A man buys three plots of ground containing 35.27, 17.8, and 40.375, respectively. How many acres altogether?

A man had 10.5 yds. of cloth and used 4.125 yards for a coat. How much left?

Liquid Measure.

Find the price of 8½ qts. of milk at 4 cts. a pint.

A woman measuring out 2 gallons of milk uses a half-pint measure. How many times does she have to fill it?

How long will a barrel of oil, containing 51 gallons, last if 2 quarts are burned each day?

FOURTH MONTH.

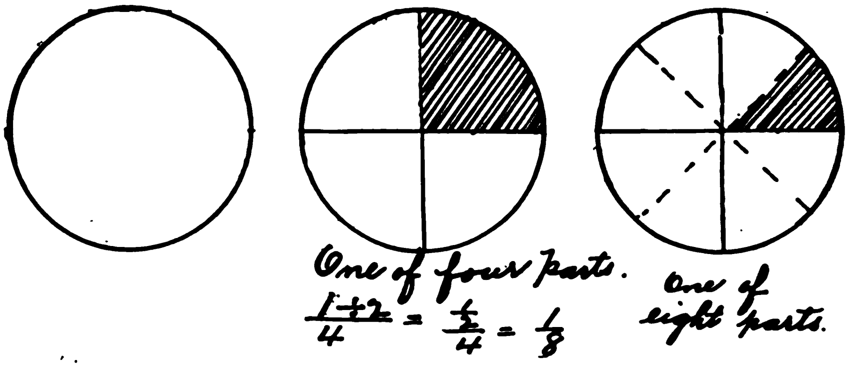
Division of Circles.

Draw a circle.

Divide it into fourths.

Take ¼ of it.

Divide numerator by 2.

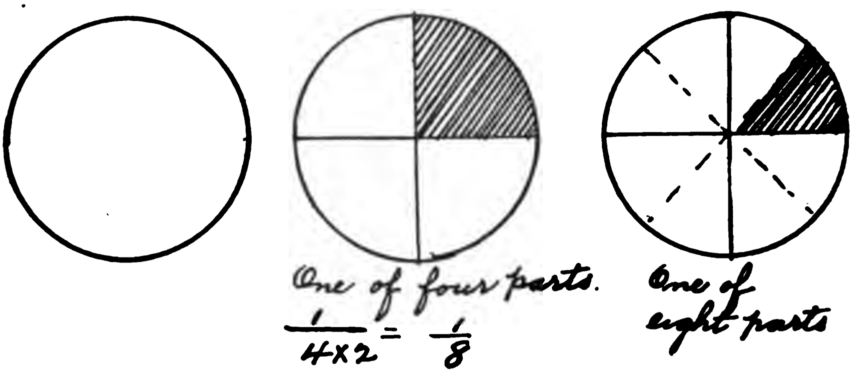


Result: ⅛. We still have one part, but it is one of eight instead of one of four parts.

Therefore, dividing the numerator decreases, or divides the fraction.

Take a circle.

Divide it into fourths.



Take ¼ of it.

Multiply the denominator by 2.

We still have one part, but it is one of eight and not one of four.

Result: ⅛.

Therefore, multiplying the denominator divides, or decreases, the fraction.

Therefore, also, dividing the numerator has the same effect as multiplying the denominator.

Division of Fractions.

Divide $\frac{10}{11}$ by 5. Use two methods.

Three men ran up a bill of $14½. Find the share of each.

How many bushes can I place in a garden 12⅓ ft. long and 9 ft. wide, if each bush occupies 3¼ sq. ft.?

The cost of carpeting a room 14 ft. long and 12 ft. wide with carpet ¾ yd. wide at $1.12½ a yard. Make a diagram of the room and the carpet.

$7.28 is $\frac{8}{13}$ of what number?

A man puts ⅞ of his money in the bank. If he put in $2,289, how much did he own altogether?

How many garments each requiring ⅘ of a yd. of cloth can be made from 4⅘ yds.?

Simplify: $$\frac{5}{56\frac{1}{4}} \qquad \frac{4\frac{1}{2}+\frac{2}{3}}{4\frac{1}{2}-\frac{2}{3}}$$

$$4\left(\frac{3}{5}-\frac{2}{5}\right) \div 7\left(\frac{8}{17}+3\frac{1}{2}\right)$$

If a man spends $1,687.50 and this is ¾ of his income, how much is his income?

Reduction of decimals to common fractions.

Read .3.

Can you express it differently?

What have you done?

How do you change a decimal to a common fraction?

Express the following as a mixed number: 8.324.

Change the form of the following without changing the value: 84.325 lbs.

Find the cost of 4 yds. of silk at $.24 a yard. Express your answer as a common fraction.

Time.

How many examples can I do in two hours if I spend 3 min. on each?

Columbus landed in Oct., 1492; the Pilgrims came in Dec., 1620. How many months between the two events?

What part of a day is 50 minutes?

Mr. Brown's salary is $2,500 a year. How much is that a month?

A windmill pumps 2 gallons of water a minute. How many gallons does it pump in 10 hrs.?

FIFTH MONTH.

Division of Decimals by Integers.

If 90 tons of coal cost $472.50 find the cost of 132 tons.

A man earns $162 in 13.5 wks. What are his weekly wages?

At $4 a pair, how many pairs of shoes can I buy for $29.12?

Reduction of Common Fractions to Decimals.

Paid $¼ each for two pairs of gloves. How much for both? Express answer as a decimal.

Add $\frac{3}{50}$ and $\frac{5}{50}$. Change answer to a decimal.

Bought 3 spools of thread at $⅛ each; 1 pair of gloves for $⅔; 2 books at $¾ each. How many dollars and cents did I spend?

Miscellaneous Review.

(⅝ × $3\frac{6}{7}$ × 5⅘) divide by (⅔ × ¾ × 1⅔)

A man owns ⅜ of a factory and sells ¼ of his share for $7,500. What is the factory worth?

At $.87½ a yd. what will it cost to pave a yard 15 ft. by 12 ft.?

How many weeks will 4⅕ tons of coal last Mrs. Black if she uses of a ton each week?

The distance round a sq. field is 16 rds. What is the field worth at $.08⅓ a sq. ft.?

Language in 5 B

By Charles W. Laffin and M. Leon Arnowitt, P. S. 55, Brooklyn.

From Syllabus.

Drills on correct form should include:

1. Use of irregular verbs.
2. Use of prepositions.
3. Use of personal pronouns forming parts of completed subjects or objects.

Study of sentences with completed parts should include:

1. Agreement of the verb with its subject.
2. Correct use of nom. and obj. case forms of the pronouns.
3. Punctuation of words in series. Pupils should learn to distinguish the subject word, the predicate verb and the complement of the verb.

Punctuation of words in series.

Memory work.

Prefixes and Suffixes.

Comment on Presentation and Difficulties.

Presupposition:

By the time the pupils have reached the 5B Grade they know the terms subject and predicate. They are able to distinguish between *whole* subject and *whole* predicate. They are now to learn the meaning of subject *word* and predicate *verb.*

A difficulty of this grade is to lead a child to recognize a verb. His concept of a verb is anything but clear, and it is the privilege of the 5B class teacher to fix the idea of verb in the child's mind.

Without a clear concept of what a verb is little progress can be made, but when the pupil learns to recognize a verb readily all the sentence work is facilitated and made pleasant.

Method:

An excellent plan is that of referring back to the three classes of sentences—those which tell what things are, what things do, what is done to things.

Examples.

What Things Are:

Hiawatha was an Indian boy.
Cæsar was emperor of Rome.
Victory is ours.
Diligence is the mother of good luck.
Idleness is the root of all evil.
Time is the measure of life on earth.
Wit is not always wisdom.
This is my own, my native land.
Honesty is the best policy.
To lie is cowardly.

WHAT THINGS DO:

A bad workman quarrels with his tools.
A cat may look at a king.
The stranger had bent his eye on Hester.
He drove back the tyrant in shame from our shore.
She tore the azure robe of night.
She set the stars of glory there.
We stooped beside the trundle bed.
Faint streaks of purple soon blushed along the sky.
Every little helps.
A soft answer turneth away wrath.
The church bells rang a merry peal of welcome.
Liberty enlightens the world.

> By the shores of Gitche Gumee,
> By the shining Big-Sea-Water,
> Stood the wigwam of Nokomis,
> Daughter of the Moon, Nokomis.

WHAT IS DONE TO THINGS:

Napoleon was defeated at Waterloo.
Adam was dismissed from Eden.
The everlasting gates of morning were thrown wide open.
The Flower of Liberty's swelling bud was rocked by storm winds.
Its opening leaves were streaked with blood.
Cæsar was murdered.
A battle fierce and obstinate had lain a thousand partiots low.

PREDICATE VERB:

Drill for a few days on classifying sentences, as to sentences which tell what things (1) are, (2) do, (3) what is done to things. Lead the child to see that a certain word in the sentence determines the classification. What is the sentence without it? The child has found the soul of the sentence. What is its mission? It is *used to tell* what things *are,* what things *do,* or what *is done* to things. In what part of the sentence is it? Answer: The predicate; the predicate verb is found in the predicate.

Considerable drill is now needed in selecting verbs. The children know the mission of the verb and will now take delight in discovering it even in very complicated constructions later. Always have the pupil tell why it is a verb (because it is used to tell what things are, do or is done to things).

A DEVICE:

A good device at this stage is to tell some interesting story containing a profusion of verbs. Have some pupil say "Stop" at the verbs and quickly tell the function of the verb in question.

Siegfried files the pieces of his father's sword into dust—throws the dust into the melting-pot—places the pot on the fire—sings as he fans the flames with the bellows—pours the melted steel into a mould—plunges it into water to cool.

Then he thrusts the steel into the fire—draws out the glowing metal—hammers it on the anvil—plunges the steel into water—fastens the welded sword-blade to the hilt.

Singing again, he swings the sword through the air—brings it down with force—splits the anvil. Sword in hand, Siegfried rushes away to find the dragon.

Rats!
They fought the dogs, and killed the cats,
And bit the babies in the cradles,
And ate the cheeses out of the vats,
And licked the soup from the cooks' own ladles,
Split open the kegs of salted sprats,
Made nests inside men's Sunday hats,
And even spoiled the woman's chats,
By drowning their speaking,
With shrieking and squeaking
In fifty different sharps and flats.

—*From the Pied Piper of Hamelin.*

She swept the hearth up clean,
And then the table spread;
And next she fed the dog and bird
And then she made the bed.

Numerous other examples may be had which will keep the interest and arouse enthusiasm.

The pupils will enjoy this, their interest will be aroused and their powers of attention strengthened. The mistake made by one pupil and later corrected by the teacher will only fix the concept, verb, in the minds of all.

SUBJECT WORD:

To find this let pupil find first the predicate verb and say "Who" or "What" before it.

"Hannibal crossed the Alps." What is the predicate verb? Who crossed the Alps?

On the summit of Mt. Blanc they stood.

Great rats, small rats, lean rats, brawny rats, brown rats, black rats, gray rats, tawny rats, followed the Pied Piper.

Why did you go?

Somewhat back from the village street,
Stands the old-fashioned country seat,
Across its antique portico
Tall poplar trees their shadows throw.

America has furnished to the world the character of Washington.

COMPLEMENT:

Children will be led to notice that some verbs complete a sentence, viz.

The horse } runs
eats
sleeps

That others do not form a complete predicate without the aid of additional words, e. g.,

The dog } caught
bit
frightened

The teacher } is
appears
looks

That which is added to "complete" the meaning is called the COMPLEMENT.

KINDS OF COMPLEMENTS:

Of course the pupil is not to be expected to be able to distinguish and classify, but it is a good thing to present to his eye and judgment the various kinds of complements, viz.:

The boy was sorry.
The French people are economical.
It was he.
Napoleon was a general.
Roosevelt is president.
Roosevelt became president.
An idle brain is the devil's workshop.
The author of "Pilgrim's Progress," John Bunyan, was the son of a tinker.
Shakespeare, the great dramatist, was careless of his literary reputation.
The conqueror of Mexico, Cortez, was cruel in his treatment of Montezuma.
He seemed sick.
The weather stays warm and sultry.
Time is a great healer.
James I. was a king.
Washington became commander-in-chief.
The Hudson is a silvery stream.
Confucius was a great teacher.
Health is a great blessing.
A friend in need is a friend indeed.

Predicate verbs which have attribute complements differ little in meaning from the verb "be."

OBJECT:

The north wind shakes the young tree.
The frost nips it.
They scaled Mount Blanc.
They buried Cæsar.
No one heard him.

Dewey took Manila.
Serpents cast their skin once a year.
Wellington conquered Napoleon.
The Japanese defeated the Russians.

All these verbs are used to tell what things do, action, and in each case the complement receives the action.

COMPOUND PARTS:

The pupil has now learned to distinguish between the principal parts of a sentence. Explain compound—*com-ponere*—to put with. The child will experience little difficulty in finding compound subjects, predicates and objects.

Pay particular attention to pronouns forming parts of compound subjects and objects.

SUBJECT:

John is a boy.
Henry is a boy.
John and Henry are boys.
Arthur is Jessie's friend.
Jessie is Arthur's friend.
Arthur and Jessie are friends.
Both friend and foe applauded.
Hannibal and Napoleon crossed the Alps.
Man and beast perished.
Virtue and honesty have their rewards.
Washington and Lincoln were presidents of the United States.
Roosevelt and Fairbanks were elected.
Grant and McClellan were generals.
You and I will go to-morrow.
They and you are wrong.
Both you and we were deceived.
Neither he nor I did this.
Both we and you wronged him.
She invited John to her party.
She invited James to her party.
She invited John and James, etc.
The English defeated the French and Indians.
God created the heavens and the earth.
He is noble and brave.
The arrow hit both him and me.
Americans invented the telegraph and telephone.

PREDICATE:

Learning expands the mind.
Learning elevates the mind.
Learning expands and elevates the mind.

Lincoln was nominated and elected president.

Peter Minuet traded with the Indians and bought the island of Manhattan.

He was born and bred in New York.

The British surrendered and evacuated the town.

AGREEMENT:

The horse is man's friend.

The dog is man's friend.

The horse and dog *are* man's friends.

Children soon see the necessity for a rational agreement between subject and predicate.

Guard against—He don't.

Drill on—neither, nor,
either, or,
both plural verb.
} verb agrees with nearest subject.

Our welfare and security consist in unity.

Neither he nor I was present.

Either Napoleon or Wellington was defeated.

Both George and Ed were there.

The purpose of these exercises is to forestall or eradicate common errors in pupil's daily speeech, and to make correct expression the pupil's natural speech.

(While some objection may be made to giving incorrect forms, still the child will only know that they ARE incorrect when told that they are so. In correcting always tell why it is wrong, and in addition their attention is focused on that particular error.)

Many a heart and home has been desolated by drink.

Our welfare and security consist in unity.

For correction:

You was mistaken.

Appearances is often deceptive.

He don't know what it is.

The correctness of these rules are doubtful.

Six months' interest are due.

There was many reasons.

A fleet of vessels were seen approaching.

A great number of horses and dogs were burnt.

Industry and frugality leads to wealth.

Wealth, honor and happiness forsakes the indolent.

Temperance and exercise preserves health.

Ignorance or jealousy have caused this mistake.

Neither he nor his brother were there.

No pains nor cost were spared in his education.

The teacher must continually bring before him examples of good English and combat the child's tendency to revert to slangy expresssion and poor

English. For while the child's language in the schoolroom may be correct, no sooner does he get out, than with a feeling of ease and comfort he turns to his arnt's and I done's and gits. It does not seem natural to him to speak correctly.

The teacher must bear in mind that good speech is a habit and can only be acquired through continual application.

PRONOUNS (ONLY PERSONAL):

1. John is a boy.
2. John studies his lessons.

Some pupil states sentence (2) without using John's name. Repeat process and boy soon sees that a pronoun is a word that denotes persons or things without naming them—that it stands *for* a noun.

CASES OF PRONOUNS:

Lead the pupils to see that when a "pronoun" is the subject it must be of a certain form—the subject form. Show likewise with the objective form.

The pupil knows without being told that "Me went to school" should be "I went to school." He corrects this intuitively, but can give no reason. He must be led to see that the personal pronouns have certain forms when subjects and others when objects. He will not say nominative and objective case, but he may call it "subject form" and "complement form."

Give numerous sentences with pronouns, asking what forms they are in and why.

RULES.

1. When the subject of a verb is a pronoun it must have subject form.
2. When object is a pronoun it must have object form.

Subject form—	*Object form—*
I came, I saw, I conquered.	I saw him.
He stopped suddenly.	We saw you.
They marched to the beat of drums.	You saw us.
Here you see our president.	The guard ordered them to halt.
It was one of the seven wonders.	The dog tore it to pieces.
She waved the flag over all.	They told her to run.
Never did we see such a glorious sunset.	

For correction—give reason:

Him and me are of the same age.
I am not so old as her; she is older than me by ten years.
He was angry, and me too.
Who will go? Me.
Not one in a thousand could have done it as well as him.
Him being a stranger, they easily misled him.
Oh, happy us! surrounded thus with blessings.
It was Joseph, him whom Pharaoh promoted.

I referred to my old friend, he of whom I so often speak.
You have seen Cassio and she together.
Whom did he refer to, he or I?
Did he choose you and I?
He that is idle and mischievous reprove.
They that are diligent I will reward.
I knew it was him.
I knew it to be he.
Who did you suppose it to be?
Whom did you suppose it was?
I took that tall man to be he.
I thought that tall man was him.

Avoid these errors:

(1) Using he, it, she or any other pronoun when the antecedent is not clear.

Correct:

MODEL.—The lad cannot leave his father; for, if he should leave ***him, he*** would die. The lad cannot leave his father; for, if he should leave ***his father, his father*** would die. Lysias promised his father never to abandon ***his*** friends. Lysias gave his father this promise: "I will never abandon ***your*** (or ***my***) friends."

He said to his friend that, if he did not feel better soon, he thought he had better go home.

(This sentence may have four meanings. Give them all, using what you suppose were the speaker's words.)

A tried to see B in the crowd, but could not because he was so short.

Charles's duplicity was fully made known to Cromwell by a letter of his to his wife, which he intercepted.

The farmer told the lawyer that his bull had gored his ox, and that it was but fair that he should pay him for his loss.

(2) Using pronouns neeedlessly.

DIRECTION—*Write these sentences, omitting needless pronouns*:—

It isn't true what he said.

The father he died, the mother she followed, and the children they were taken sick.

The cat it mewed, and the dogs they barked, and the man he shouted.

Let every one turn from his or her evil ways.

Napoleon, Waterloo having been lost, he gave himself up to the English.

(3) Avoid using "them" without some small word as of, in, to, from. The children make so many errors in using this word, *e. g.*, in such sentences as follows: "Give me them apples," "I have them books," that it is advisable, in this grade, not to have them use "them" without a preposition.

Nom.—I, you, he, she, it, we, you, they.
Obj.—Me, you, him, her, it, us, you, them.
Poss.—My, your, his, hers, its, our, your, their.

Rules:

I. When the subject of a verb is a pronoun, it must have subject form.
II. When object is a pronoun, it must have object form.
Correct—Me and him went to the circus.
Why—Rule.
Correct—I took she and him to school.
Why—Rule.

Method:

A good method to teach this is as follows:

"Me and him went to the circus." Omit "me and"—"Him went to the circus." The child at once knows that "Him went to the circus" is wrong. He will correct it immediately. Same with "Me"—omit "and him."

Likewise with such wrong case forms in the object-complement as:

"I took she and him to school." Omit "and him" and the child will recognize the mistake at once.

Soon the pupil sees the error of such statements as "Me and him did this" and will not answer "me" when the teacher says "Who did that?" Correct, "She invited him and I."

As constant dropping wears a stone, so constant drill in the correct form of these cases of pronouns will improve the child's forms of expression in oral and written work.

PREFIXES:

Methods.—Place work on blackboard the word ***kind***.

Ask boys to suggest some way of changing meaning of word by placing a syllable before it. Some pupil will say "Unkind—not kind."

How have you changed the meaning? By placing a syllable before it. ***Pre*** = before; ***fix*** = fix before.

Suppose the prefix "in" is to be taught. The teacher puts words with prefix "in" on board as:

incorrect
insane
insufficient

Ask one of the pupils to tell the meaning of any of these words and write it on the blackboard, bringing out the meaning of "in" clearly, as:

in-correct—not correct
in-sane—not sane.

(Continued in December number.)

Term Plan in Arithmetic by Weeks—6 A

By Alice G. Connolly, P. S. 53, Brooklyn.

First Month.

First Week. Reduction Descending of Denominate Numbers. Reduction Ascending of Denominate Numbers.

Second Week. Addition and Subtraction of Denominate Numbers.

Third Week. Multiplication and Division of Denominate Numbers.

Fourth Week. Reduction of Compound Fraction, also Decimal Fraction to higher terms.

Second Month.

First Week. Reduction of Compound and Decimal Fraction to lower terms.

Second Week. Addition and Subtraction of Mixed Numbers.

Third Week. Multiplication and Division of Fraction and Mixed Numbers.

Fourth Week. Writing Decimals to millionths. Addition of Decimals. Subtraction of Decimals.

Third Month.

First Week. Multiplication of Decimals. Division of Decimals.

Second Week. Reduction of Common Fractions to Decimals. Reduction of Decimals to Common Fractions—reduce to lowest terms. Reduction of Compound and Complex Fractions to Simple Fractions.

Third Week. Finding part of a number. (First case in Percentage.)

Fourth Week. Finding whole number when part is given. (Second case in Percentage.)

Fourth Month.

First Week. Finding what part one number is of another. (Third case in Percentage.)

Second Week. Finding areas of and distances around rectangles.

Third Week. Finding areas of right-triangles.

Fourth Week. Volume.

Fifth Month.

First Week. Bills, Statements.

Second Week. Review, Denominate Numbers.

Third Week. Review, Percentage, Bills and Statements.

Fourth Week. Review, Measurements.

Typical Examples for 6 A Grade

First Week.

Reduction of Denominate Numbers.

Reduction Descending:

Change 7 yd. 1 ft. 9 in. to inches.

Change 4 mi. 120 rd. 4 yd. to yards.

Change 14 bu. 2 pk. 7 qt. to quarts.
Change 66 yd. 0 ft. 3 in. to inches.
Change 5 hr. 16 min. to seconds.
Change 4 wk. 6 da. 11 hr. to hours.
Change 56 lb. 11 oz. to ounces.
Change 19 bu. 0 pk. 3 qt. to quarts.
Change 11 rd. 3 yd. to feet.
Change 3 bu. 6 qt. to quarts.
Change 15 T. 14 oz. to ounces.
Change 17 T. 69 lb. to pounds.

Reduction Ascending:

Change 876 in. to yd. etc.
Change 475 oz. to lb. etc.
Change 325 qt. to bu. etc.
Change 1,675 min. to da. etc.
Change 972 lb. to T. etc.
Change 972 rd. to mi. etc.
Change 117 pt. to gal. etc.
Change 9,483 sec. to hr. etc.
Change 877 qt. to bu. etc.
Change 1,495 oz. to lb. etc.
Change 373 in. to yd. etc.
Change 216 qt. to gal. etc.

Second Week.

Addition of Denominate Numbers.

16 yd. 2 ft. 9 in.
17 yd. 4 in.
1 ft. 6 in.
11 in.

12 T. 1,576 lb.
3 T. 980 lb.
76 lb.
1 T. 1,830 lb.

11 da. 5 hr. 19 min.
23 da. 40 min.
17 hr. 50 min.
5 da. 20 hr. 6 min.

2 wk. 5 da. 12 hr.
6 da. 15 hr.
5 wk. 2 hr.
2 da. 19 hr.

3 gal. 3 qt. 1 pt.
4 gal.
8 gal. 1 qt.
2 qt. 1 pt.

18 mi. 100 rd.
4 rd.
29 mi.
6 mi. 160 rd.

5 hr. 30 min. 20 sec.
45 min. 33 sec.
6 hr. 11 min. 5 sec.
10 hr. 3 min. 30 sec.

47 yr. 11 mo.
5 yr. 9 mo.
7 mo.
22 yr. 5 mo.

487 T.
316 T. 816 lb.
247 lb.
43 T. 811 lb.
19 T. 25 lb.

83 lb. 15 oz.
9 lb. 5 oz.
18 lb.
22 lb. 10 oz.
5 lb. 8 oz.
12 oz.

8 hr. 15 min. 5 sec.
37 min. 52 sec.
5 hr. 48 min.
23 hr. 59 min. 5 sec.

8 bu. 3 pk. 7 qt.
5 qt.
2 pk. 1 qt.
4 bu. 6 qt.
3 bu. 1 pk. 1 qt.

Problems in Addition of Denominate Numbers.

1. Mr. Baker owns three farms. The first contains 358 acres, 60 sq. rds.; the second, 232 acres, 85 sq. rds.; the third, 279 acres, 15 sq. rds. How many acres of land does he own. 870 Acres.

2. A grocer received an invoice of 4 bbls. of kerosene. The first had 38 gal. 3 qts. 1 pt.; second, 40 gals. 1 qt. 1 pt.; third, 42 gals. 2 qts. 1 pt.; fourth 39 gals. 3 qts. 1 pt. How many gals., qts., etc., in all four barrels together? 161 gals. 3 qts.

3. How many sq. yds. of plastering in four rooms, etc. Some on square measure.

Subtraction of Denominate Numbers.

62 mi. 84 rd.
— 19 mi. 159 rd.

76 T. 225 lb.
— 37 T. 1,679 lb.

100 lb.
— 83 lb. 4 oz.

52 wk.
— 13 wk. 3 da. 7 hr.

19 gal. 1 pt.
— 8 gal. 3 qt.

18 hr. 5 min.
— 40 min. 25 sec.

16 yd. 9 in.
— 7 yd. 1 ft. 11 in.

100 bu.
— 42 bu. 3 pk. 7 qt.

42 da. 1 hr. 1 min.
— 6 da. 6 hr. 6 min.

27 bu. 1 pk. 5 qt.
— 13 bu. 3 pk. 7 qt.

From 75 gal. 1 qt. take 13 gal. 2 qt. 1 pt.

From 22 hr. 15 min. 20 sec. take 15 hr. 45 min. 40 sec.

A farmer sold out of 5 bu. of peas the following quantities: 3 pk. 6 qt.; 4 pk. 3 qt.; 1 bu. 1 pk. 1 qt. How much has he still to sell?

From a hhd. of molasses containing 54 gal. 2 qt. there were sold 23 gal. 1 pt. What was the value of the remainder at 4 cents a pt?

What is the result, if the sum of 5 yd. 2 ft. 4 in. be taken from 42 yd.?

Third Week.

Multiplication of Denominate Numbers.

Multiply 3 hr. 5 min. 15 sec. by 5.
Multiply 2 pk. 7 qt. by 10.
Multiply 32 gal. 1 pt. by 7.
Multiply 33 min. 33 sec. by 9.
Multiply 3 qt. 1 pt. by 11.
Multiply 5 wk. 6 da. 12 hr. by 16.
Multiply 4 T. 250 lb. by 9.
Multiply 3 yd. 1 ft. 6 in. by 22.
Multiply 2 mi. 15 rd. by 32.
Multiply 4 hr. 10 min. 20 sec. by 9.
Multiply 31 gal. 2 qts. by 42.
Multiply 4 qt. by 37.

A grocer bought 6 bbl. of cranberries each containing 3 bu. 2 pk. and 3 qt. How many bu., pk., and qt. did they contain?

Find the cost of 8 cans of oil if each contains 3 qt. 1 pt., at $.12 a gallon?

If one acre yields 14 bu. 3 pk. 7 qt. of cranberries, how much will 25 acres yield?

Division of Denominate Numbers.

Divide 37 bu. 3 pk. 6 qt. by 2.
Divide 33 da. 15 hr. 57 min. by 3.
Divide 163 gal. by 6.
Divide 13 wk. by 5.
Divide 5 hr. 1 min. 57 sec. by 9.
Divide 36 yd. 6 in. by 7.
Divide 20 da. 13 hr. 4 min. by 16.
Divide 15 gal. 3 qt. by 18.
Divide 54 yd. 1 ft. 4 in. by 20.
Divide 457 hr. 37 min. 30 sec. by 9.
Divide 180 da. 3 hr. 4 min. by 16.
Divide 236 gal. 1 qt. by 18.

If 9 horses eat 18 bu. 1 pk. 1 qt. of oats in a day, how much will 2 horses eat in a day?

595 gal. of oil are put into 4 barrels. How many gal. and qt. does each contain?

296 yd. of cloth are divided equally among 18 persons. What is the length of each one's share?

Fourth Week.

Reduction of Common and Decimal Fractions to Lower Terms.

Reduce $\frac{1}{32}$ of a day to minutes.
Reduce $\frac{11}{16}$ of a gallon to qt. and pt.
How many pt. in .25 of a bushel.
Change .75 yd. to ft. and in.
Change $\frac{3}{5}$ bu. to lower denominations.
Change $\frac{5}{6}$ ream to quires and sheets.
Change .048 of a minute to seconds.

Fifth Week.

Reduction of Common and Decimal Fractions to Higher Terms.

Change $\frac{3}{4}$ of a qt. to the fraction of a bushel.
What fraction of a gallon is $\frac{1}{6}$ of a quart?
What part of an acre is $\frac{8}{9}$ of a square rod?
Reduce $\frac{3}{8}$ of an inch to the fraction of a yd.?
Change .0159 of a foot to the decimal of a yd.
Change .928 of a qt. to the decimal of a bu.
Reduce .640 of a rod to the decimal of a mile.

Sixth Week.

Addition of Mixed Numbers.

$9\frac{2}{3} + 15\frac{5}{6} + 18\frac{7}{8} + 46\frac{3}{7} = ?$
$2\frac{11}{45} + 5\frac{36}{81} + 19\frac{6}{30} + 7\frac{10}{45} = ?$
$3\frac{18}{30} + 6\frac{9}{24} + 10\frac{8}{16} + 9\frac{4}{16} - ?$
$16\frac{14}{18} + 35\frac{33}{99} + 48\frac{15}{45} + 7\frac{26}{52} + 39\frac{45}{60} - ?$
$22\frac{50}{150} + 44\frac{24}{108} + 39\frac{42}{63} + 26\frac{35}{210} = ?$
$68\frac{12}{18} + 35\frac{26}{39} + 26\frac{28}{56} + 38\frac{12}{16} - ?$
$26\frac{80}{120} + 14\frac{1}{3} + 63\frac{10}{14} + 77\frac{1}{2} + 54\frac{8}{16} - ?$

Subtraction of Mixed Numbers.

$$\begin{array}{r} 755\frac{3}{8} \\ -283\frac{7}{16} \\ \hline \end{array} \quad \begin{array}{r} 3{,}305\frac{1}{12} \\ -\ 697\frac{3}{14} \\ \hline \end{array} \quad \begin{array}{r} 60\frac{3}{16} \\ -\ 9\frac{5}{18} \\ \hline \end{array}$$

$$\begin{array}{r} 87\frac{12}{24} \\ -56\frac{13}{40} \\ \hline \end{array} \quad \begin{array}{r} 8015\frac{17}{18} \\ -5908\frac{16}{32} \\ \hline \end{array} \quad (81\frac{3}{4} + 4\frac{7}{8})\ (2\frac{5}{12} + 3\frac{5}{6})$$

Seventh Week.

Multiplication of Fractions.

$\frac{2}{9} \times \frac{5}{6} \times \frac{27}{36} \times \frac{81}{90} \times \frac{9}{21} - ?$
$\frac{44}{60} \times \frac{30}{36} \times \frac{27}{63} \times \frac{42}{77} - ?$
$\frac{18}{19} \times \frac{11}{13} \times \frac{36}{49} \times \frac{14}{27} - ?$
$1\frac{2}{3} \times 4\frac{2}{9} \times \frac{14}{5} \times \frac{1}{20} - ?$

Multiply [1] $105 \times \frac{7}{12}$, [2] $200 \times \frac{9}{14}$, [3] $239\frac{9}{13} \times 26$, $1\frac{15}{45} \times 10\frac{16}{64} - ?$
Cost of 7 cows at $35\frac{3}{4}$

Problems:

A grocer having 5⁄6 of a bbl. of vinegar, sold 3⁄5 of it to one man. What part of a bbl. did the man buy?

What is 3⁄4 of 5⁄8 of a mile?

If a horse eats 2 5⁄8 bu. of oats in a week, how many bu. would 10 horses eat?

What will 16 bu. of oats cost at $.37½ a bu.?

A water-pipe discharges 18 3⁄4 gals. an hour. How many gals. will it discharge in $26\frac{8}{15}$ hrs.?

Division of Fractions.

Problems:

A drover paid $297 2⁄3 for 38 sheep. What was the average price per head?

If 32 3⁄4 acres produce 900 5⁄8 bu. of wheat, what is the yield per acre?

If it takes 5⁄8 of a yd. of cloth to make a vest, how many vests can be made from 51 1⁄4 yds.?

$$\frac{4\frac{3}{8}\times 5\frac{2}{7}}{8\frac{3}{8}\times 4\frac{7}{8}}=? \qquad \frac{11\frac{3}{7}+8\frac{1}{3}+2\frac{1}{8}}{2\times 1\frac{1}{8}\times 1\frac{1}{5}}=?$$

Product of $20\frac{3}{8}$ and $\frac{240}{16}+6\frac{3}{8}=?$

$$\frac{15\frac{3}{4}\times 6\frac{2}{7}\times 10\frac{3}{5}}{8\frac{2}{3}\times 4\frac{7}{15}\times \frac{11}{18}}=?$$

A man paid $18 3⁄4 for a load of hay weighing 2 3⁄5 tons. What was the hay worth per ton?

(2 solutions; compare results to verify.)

Eighth Week.

Writing decimals to millionths.

Addition of Decimals.

400.08
7.095
84.0045
200.00002
7.004856

.00045
6.2040
.0185
.58961
12000.
.00144
.01736
920.07

.00384
2500.
.013
2000.02
10.00967
.00075
.0044

.00384
.00625
6250.
8008.02
10.009670
.000075
4400.

80600.
9.090
876.050
.0409
.865984

Subtraction of Decimals.

1500.0012
— 150.007

9,000.6
— 564.00237

1250.0076
— 69.47628

100.0127
— 99.8759

2067.008
— 659.650

201000.
— .201

Ninth Week.

Multiplication of Decimals.

Multiply 24.72 by .65.
Multiply .0069 by 5.6.
Multiply .31 by .0005.
Multiply 9.8 by .0065.
Multiply 586¼ by .011.
Multiply 876.51 by 800.
Cost of 12.75 lb. of tea at $.87½ per lb.?

(2 solutions to verify.)

Division of Decimals.

Divide 54.72 by 128.
Divide 8658 by .74.
Divide 975.78 by .903.
Divide 773.40 by 4.5.
Divide 145.7 by 4700.
Divide 14.089 by 4.035.
At $5.74 per yd. how much broadcloth can be bought for $487.90?
At $.045 per pound, how many pounds of sugar can be bought for $9.54?

(Continued in December number.)

English Composition - Grade 6 B

BY ELIZABETH H. HALE AND SIDNEY M. FUERST, P. S. No. 55, Brooklyn.

Term Plan.

(2 Lessons Weekly.)

Lesson 1—Study of model letter and oral reproduction.
" 2—Imitation of model 1.
" 3—Study of model letter and oral reproduction.
" 4—Imitation of model 3.
" 5—Study of model letter and oral reproduction.
" 6—Imitation of model 5.
" 7—Oral report on home reading.
" 8—Study model—"The Little Leaf"—a simple narrative—make outline.
" 9—Imitation of model 8.
" 10—Study model—"Perry's Victory on Lake Erie"—an historical narrative—reproduce orally.
" 11—Imitation of model 10 from outline. "The Constitution and the Guerriere."
" 12—Study narrative in poetry—"Barbara Frietchie."
" 13—Reproduction of the story in 12 from outline.
" 14—Study model—"A Visit to Tokio"—a geographical narrative—reproduce orally.
" 15—Imitation of model 14—"A Visit to New York."
" 16—Written report on home reading.
" 17—Study model—"Little Jo"—description of a person—reproduce orally.
" 18—Imitation of model 17.
" 19—Study model—"The Old Angler's Cottage"—description of an obect—written reproduction.
" 20—Imitation of model 19—"Our Home."
" 21—Study model—"Mountain Pictures"—description of a scene—reproduce orally.
" 22—Reproduction in prose form of model 21.
" 23—Study model—"The Song Sparrow"—description of a bird—reproduce orally.
" 24—Imitation of model 23 from outline—"The English Sparrow."
" 25—Oral report on home reading.
" 26—Study model—"The Dance of the Nymphs"—description of a picture.
" 27—Imitation of model 26—"A Corot."
" 28—Study model—"A Float"—make outline.
" 29—Reproduction of model 28.
" 30—Study model—"How to Make a Calendar"—reproduce orally.
" 31—Imitation of model 30.
" 32—Same.
" 33—Written report on home reading.

" 34—"A Journey Across the Sahara"—from outline.
" 35—Study model from H. W. Longfellow—a dialogue.
" 36—Imitation of model 35.
" 37—Invention—individual pictures.
" 38—Invention—imaginary autobiography.
" 39—Narrative and description combined—"Springfield Foxes."
" 40—Same as 33.

MODELS AND PLANS.

I.

White House,
WASHINGTON, March 3, 1905.

MY DEAR MR. JESSUP:

May I, through you, thank the Chamber of Commerce and say how deeply I appreciate the message of good will from this, the foremost representative of all our commercial organizations?

With hearty regards,
Sincerely yours,
THEODORE ROOSEVELT.

III.

2 Lincoln Place,
BROOKLYN, May 12, 1901.

DEAR ALFRED:

Let me congratulate you on the good fortune of obtaining the appointment you have so long wanted. I think that with your qualifications and energy, the position will prove a pleasant and lasting one. Though the salary may not be very large, it is enough to place you in comfortable circumstances.

The esteem in which I have always held you during your misfortunes makes me doubly happy in your success. Write me a long letter when you have time, and tell me all about your new work. Be assured that anything concerning you will always interest me.

Your sincere friend,
———— ——————————

V.

YORK, PA., May 10, 1903.

MY DEAR COUSIN:

Before leaving home I promised to write to you frequently to inform you how I liked this place and the school. Why I did not do so sooner, you will excuse when I tell you that my studies were so many that very little spare time was at my disposal for anything else. Now, then, having made my excuse, I proceed to describe the place and school.

York is a small town beautifully situated on a plain, surrounded with well-cultivated farms on all sides, even on the hills, which in some directions overlook it. The people are very sociable, and I have made many valued friends among them. The school is all that could be desired. I only wish you were here; it would be so pleasant to study our lessons together.

Write to me often: I am always delighted to hear from you.

Your affectionate cousin,
——— ——————————

VIII.

THE LITTLE LEAF.

Once when the mellow days of autumn were come, a little leaf saw the leaves around becoming very beautiful. Some were scarlet, some yellow, and some were striped with both colors. Then it asked the tree what this meant, and the tree said, "All these leaves are getting ready to fly away, and they have put on these beautiful colors because of joy."

Then the little leaf began to wish to go, and it grew very beautiful in thinking of it. When it was very gay in color it saw that the branches of the tree had no color in them. So the leaf said, "O branches! why are you lead-colored and we golden?"

"We must keep on our work-day clothes," said the branches, "for our work is not done yet; but your clothes are for a holiday, because your task is over."

Just then a little puff of wind came, and the leaf let go without thinking of it. The wind took it up, turned it over and over, then whirled it like a spark of fire in the air, and let it fall gently down among hundreds of other leaves. There it fell into a dream, and never waked to tell what it dreamed about.

From Henry Ward Beecher's "Norwood."

X.

PERRY'S VICTORY ON LAKE ERIE.

During the War of 1812, Oliver Hazard Perry, a young man of twenty-seven, was assigned to prepare for the defence of Lake Erie against the British. He secured nine vessels, and with the fleet, Perry attacked the British.

In memory of the late commander of the "Chesapeake," Perry had named his vessel the "Lawrence," and had hoisted his flag bearing Lawrence's last words, "Don't give up the ship!"

The British made a target of the "Lawrence," and Perry fought till nearly every man had fallen. Then leaping into a rowboat, amid flying shots, he pulled for the "Niagara." He again hoisted his famous flag from the "Lawrence," and the battle was renewed more furiously than ever. At length, the British commander was forced to strike his colors.

Perry, taking a pencil, then wrote on the back of an old letter the following despatch to General Harrison: "We have met the enemy, and they are ours!"

XIV.

A VISIT TO TOKIO.

One beautiful October morning, leaving the Grand Hotel, we drove to the railroad station to take a train for the Japanese capital, Tokio, eighteen miles distant.

The first thing to impress me in the place was its enormous size. It is a city of magnificent distances. Its area surpasses that of London. Seen from an elevation Tokio displays an almost limitless expanse of wooden roofs.

From these there arises here and there a solitary tower or pagoda like a lighthouse from the waves.

Four hundred years ago Tokio was a fishing hamlet. In 1603 it became the military capital. Since that time it has been frequently burned down and rebuilt.

There is one great central object which forms a starting point for our explorations. This is the imperial palace. Around it is drawn a moat, so broad and deep that it might be deemed a river. Going from here we soon reach a singular gateway called a torii. These are quite common in Japan. They usually mark the approach to a temple, shrine, or sacred statue. Near them may be seen a multitude of monuments from five to seven feet in height.

One of the principal pleasure resorts of Tokio is Ueno Park. It is especially attractive in April when its cherry trees are radiant with blossoms. Here and there are lakes, while islands with fantastic bridges are seen everywhere. It is a beautiful spot with pagodas, fountains, grottoes and occasional statues.

—*John C. Stoddard.*

XVII.

Jo.

Fifteen year old Jo was very tall, thin and brown, and reminded one of a colt; for she never seemed to know what to do with her long limbs, which were very much in her way. She had a decided mouth, a comical nose, and sharp, gray eyes, which appeared to see everything, and were by turns fierce, funny, or thoughtful. Her long hair was her one beauty; but it was usually bundled into a net to be out of her way. Round shoulders had Jo, big hands and feet, a fly-away look to her clothes, and the uncomfortable appearance of a girl who was rapidly shooting up into a woman and didn't like it.

XIX.

The Old Angler's Cottage.

I found the old angler living in a small cottage containing only one room, but a perfect curiosity in its method and arrangement.

It was on the skirts of the village, on a green bank, a little back from the road. It had a small garden in front, stocked with kitchen herbs, and adorned with flowers. The whole front of the cottage was overrun with honey-suckle. On the top was a ship for a weathercock.

The interior was fitted up in a truly nautical style. A hammock was slung from the ceiling and, in the daytime, was lashed up so as to take but little room. From the center of the chamber hung a model of a ship of his own workmanship. Two or three chairs, a table, and a large sea-chest, formed the principal movables. The mantelpiece was decorated with sea-shells. His implements for angling were carefully disposed on nails and hooks about the room.

XXI.

MOUNTAIN PICTURES.

I would I were a painter, for the sake
Of a sweet picture. First a lake
Tinted with sunset; next the wavy lines
 Of far receding hills; and yet more far,
Monadnock lifting from his night of pines
 His rosy forehead to the evening star.

* * * *

So twilight deepened round us. Still and black
The great woods climbed the mountains at our back;
And on their skirts, where yet the lingering day
On the shorn greenness of the clearing lay,
The brown old farmhouse like a bird's nest hung.
With home-life sounds the desert air was stirred:
The bleat of sheep along the hill we heard,
The bucket splashing in the cool, sweet well,
The pasture bars that clattered as they fell;
Dogs barked, fowls fluttered, cattle lowed; the gate
Of the barnyard creaked beneath the merry weight
Of sun-brown children, listening while they swung,
 The welcome sound of supper call to hear;
 And down the shadowy lane, in tinklings clear,
The pastoral curfew of the cow-bell rung.

—*John G. Whittier.*

XXIII.

THE SONG SPARROW.

The song sparrow is about six inches in length. It has a brown head with three longitudinal gray bands. There are brown stripes on the side of its throat. The brownish gray back has streaks of red, while the under part of the body is gray shading to white, and heavily streaked with darkest brown. Its wings are without bars, and the tail is a plain grayish brown.

Here is a veritable bird neighbor if ever there was one; at home in our gardens and hedges, not often farther away than the roadside, abundant everywhere during nearly every month in the year, and yet was there ever one too many? There is scarcely an hour in the day, too, when its delicious, ecstatic song may not be heard. We hear in the darkness of midnight, just before dawn, in the cool of the morning, the heat of noon, the dusk of evening—ever the simple, homely, sweet melody that every good American has learned to love in childhood. What the bird lacks in beauty it abundantly makes up in good cheer.

It is difficult to imagine the friendly little musician anything but a neighbor.

Adapted from "Bird Neighbors"—*Neltje Blanchan.*

XXVI.

COROT'S DANCE OF THE NYMPHS.

Corot's "Morning" or "The Dance of the Nymphs" shows us his way of working. We have in it an open space just at the edge of a forest. The sun is shining out through the morning mist. A band of sprites is frisking and frolicking over the grass. Near the right side of the picture one of the nymphs jokingly pulls a companion by the arm, teasing her to come join in the fun.

The feeling in this picture is one of mingled mist and sunshine, of the awakening song of birds, of delight in the simple fact of being alive.

The dark and the light parts of the picture blend with each other beautifully. The soft, feathery masses of foliage make a delicate transition from the deep shade of the full sunshine and the misty haze of the distance. Even the nymphs and fauns have something of the hazy outline of the foliage above their heads.

This wood scene gives a suggestion of the impulse to frolic and sing which comes with the dawn of a fresh country morning. It means just what is meant by the song of birds and flutterings of butterflies.

Adapted from Emery's "How to Enjoy Pictures."

XXVIII.

The Float.

The carriage we liked most was the "float." I have never seen it in the plays of other boys, though perhaps it is well known. For a good float you want a board a foot wide, an inch thick, and four feet long. You want two rollers, which had better be of hard wood, each a foot long and an inch or more in diameter; two inches would be better than one, but you take what you can get; a broomstick furnishes two or three good ones. Placing these rollers two feet apart on the ground, you put the float upon them, with one roller at the end, and the other in the middle. Then seat yourself carefully on the board, having two paddles in your hands, made from shingles. With these two paddles you will find that you can propel yourself over any floor of reasonable smoothness.

From "A New England Boyhood"—*Edward Everett Hale.*

XXX.

How to Make a Calendar.

Calendars are always welcome and appropriate on New Years. Decide upon twelve persons whom you would like to think of often. Take twelve pieces of heavy, unruled, tinted writing paper. Cut twelve strips of white writing paper of exactly the same size. Send one to each chosen individual and ask that the friend's name and some sentiment be written on the paper and that it be returned to you. Having received all the slips, paste one near the top of each sheet of writing paper; below paste one leaf of a printed calendar representing one month.

Use a Christmas card for an outside cover and through the two top corners of the calendar make round holes large enough to allow a silken cord, matching in color the tint of the paper, to pass through. Then fasten all the pieces of the calendar together in order, January being the first and December the last. As each month passes by slide the leaf back on the cords, bringing January, for instance, then February to view. Hold the two loops of cord together at the top and hang the calendar where it may be readily seen.

Beard's "What a Girl Can Make and Do."

XXXV.

A CONVERSATION.

"You must be a stranger, sir, in these parts."

"Yes; my home is very far from here."

"How far?"

"More than a thousand leagues."

"More than a thousand leagues! And why have you come so far from home?"

"To travel, to see how you live in this country."

"Have you no relations in your own?"

"Yes, I have both brothers and sisters, a father and ——"

"And a mother?"

"Thank Heaven, I have."

"And did you leave her?"

—*H. W. Longfellow.*

XXXIX.

THE SPRINGFIELD FOX.

I soon saw the interesting family that lived in the cellar near by. There were four little foxes. They looked curiously like little lambs, with their wooly coats, their long thick legs and innocent expressions. A second glance at their broad, sharp-nosed, sharp-eyed visages, showed that each of these innocents was the making of a crafty fox.

They played about in the sun, till a slight sound made them scurry under ground. But their alarm was needless, for the cause of it was their mother. She stepped from the bushes bringing a hen. A low call from her and the little fellows came tumbling out. Then began a scene I thought charming.

They rushed on the hen, and tussled and fought with it and each other. The mother, keeping a sharp eye for enemies, looked on with fond delight.

—*Ernest Seton Thompson.*

Plan Book in Mathematics for the 7 A Grade, According to the Revised Course

By Ella K. Jelliffe, P. S. 70, Brooklyn.

7A.

Simple Interest. Accounts. Problems. Metric System. Foreign Money. Constructive and Inventional Exercises.

FIRST MONTH.

Interest. Leading up to the definitions. Either (*a*) through simple cases of borrowing money or (*b*) through an explanation of business methods. Sample of (*a*). Mr. Mason borrowed $100 of Mr. Smith for one year. At the end of the year he returned the $100 and paid Mr. Smith $5 for the use of the money. Such problems lead to a statement of the meaning of rate. Thus, instead of saying "interest at the rate of $5 per $100 per year," it is customary to say "interest at 5% per annum," or more briefly "interest at 5%."

Sample of (*b*). Business men often receive money from their business at certain times of year as quarterly or semi-annually. If they need to use more money than they have on hand, instead of waiting until their income is due they borrow money at the bank. The bankers make a charge for the use of the money. For example, if a bank lends $100 for a year, it will probably charge $5. This charge for the use of money is called interest.

Then bring in the names *principal* and *amount*.

Definitions: Money paid for the use of money is called interest.

The money for the use of which interest is paid is called the principal.

The (sum of the) principal plus the interest is called amount.

In computing interest it is usual to regard a year as 12 months and a month as 30 days.

(Exception: Exact interest.)

Drill in finding simple interest for years alone, then for years and months, reducing the latter to fractions of a year. Have plenty of oral work. Do not take up examples with days until the next month. Go slowly at first and make sure that the pupils understand the term used and the business principles involved. Give occasional drills in finding approximate answers with rapidity, so that the children may learn to discriminate for themselves between a reasonable and an unreasonable answer. Use both the decimal and the common fraction method, taking occasion to review the difference between the two kinds of fractions, one having a denominator 10, or a multiple of 10 unexpressed, and the other having any denomination expressed.

Accounts.

Definitions:

The amount which one person owes another is called a *Debt*.

The amount which is due to a person, or a sum paid toward discharging a debt, is called a *Credit*.

A person owing a debt is called a Debtor. A person to whom a debt is due is called a Creditor.

A record of the debts and credits between two parties is called an Account.

The difference between the amount of debt and credits is called the Balance of an Account.

A statement of the quantity and price of each article, and the value of the whole, is called a Bill.

A bill is *receipted* when the words *Received Payment* or *Paid* are written at the bottom, and the *creditor's name* is signed either by himself or by some authorized person. The following abbreviations are in common use:

@, at; Cr., creditor; a/c, account; Dr., debtor; Acc't, account; Doz., dozen; Bal., balance; Hhd., hogshead or hogsheads; Bbl., barrel or barrels; Lb., pound or pounds; Pay't, payment; Pd., paid; Per, by; Rec'd, received; Yd., yard or yards.

These definitions and abbreviations may be learned incidentally and in preliminary talks by the teacher. Children of the city schools are interested in business methods and like to know the technical terms and to understand how business records are kept.

For Cash and Personal Accounts, use some standard work on business forms, and when the pupils have had considerable practice let each pupil consider himself a tradesman and write a cash account of imaginary expenditures and receipts and balance it. (It is well to take every opportunity or correlate the mental faculties and in a subject requiring so much reasoning as mathematics, it is wise to call in the aid of imagination, when possible.)

Problems. Ten in Review of Percentage.

1. If a man's salary is $1,350 a year, and his expenses are 87½% of that sum, how much can he save yearly? ($168.75.)

2. A farmer raised 250 bu. of oats, and sold all but 65 bu. What % of his crop did he sell? (74%.)

3. A farmer sold 786 bu. of potatoes; this was 75% of his crop. How many bu. did he raise? (1,048 bu.)

4. A clerk's salary was increased 15% and now it is $1,050. What was his former salary? ($913.04.)

5. A man spent $45.75 and then had 40% of his money left. How much had he at first? ($76.25.)

6. What per cent. is gained by selling tea at 70 cents per lb. that cost 60 cts.? (16 2-3%.)

7. A horse was sold at an advance of $75, which was a gain of 25%. Find cost of horse. ($300.)

8. A stationer lost 22% by selling paper at $2.925 per ream. What did it cost him? ($3.75.)

9. A farmer sold a cow for $44.50 and gained 25%. What was its cost? ($35.60.)

10. A man sold two houses for $3,600 each. On one he gained 25%, on the other he lost 25%. How much was gained or lost by the transaction? ($480 loss.)

Some Typical Problems in Interest.

Have the formula Principal × Rate × Time = Interest clearly understood and learned. Then drill on naming these elements as given in the example to be solved and on deciding which element is missing and therefore to be found. Use either analysis or the simple equation.

Following are examples in the different cases of Interest. If the formula is properly understood, there is no reason why *simple* examples in the different cases may not be worked by the pupils even in this first month. Make it clear that the *rate* given in the problem is the number of hundredths of the principal charged for *one year.* In solving by algebra, let x equal the missing term. (If the principal is missing let $x represent it; if the time is missing, let x years represent it; if the rate is missing, let $\frac{\times}{100}$ represent it; if the interest is missing, let $x represent it. This is just what I would say to the pupils, for I know by experience how specific and definite one must be with children; and how the misunderstanding, or rather, the failure to understand, one little link of the chain of reasoning, breaks the whole chain and makes it useless.)

For oral work:

Prin. Time. Rate. Interest.

1. $.06 \times 3 \times 500 = \times$
2. $.06 \times x \text{ years} \times 500 = 90$
3. $x\% \times 3 \text{ years} \times 500 = 90$
4. $.06 \times 3 \text{ years} \times x = 90$

Solution of the foregoing:

1. *$500 \times 3 \times \frac{6}{100} = x$

$90 = x$ Ans. $90.

2. $500 \times x \times \frac{6}{100} = 90$

$30x = 90$

$x = 3$ Ans. 3 years.

3. $500 \times 3 \times \frac{x}{100} = 90$

$15x = 90$

$x = 6$ Ans. 6%.

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*Cancellation not shown on the printed page.

4. $$x \times 3 \times \frac{6}{100} = 90$$

$$\frac{18\,x}{100} = 90 \qquad \text{Clear of fractions.}$$

$$18\,x = 9000$$

$$x = 500 \qquad \text{Ans., \$500.}$$

Written Examples.

1. Find the interest on \$375.15 for 4 years at 5%.

Solution by Arithmetic:

$$\$375.15 \times .05 \times 4 = \text{Int.}$$

$$\begin{array}{r l} \$375.15 & \\ .05 & \\ \hline \$18.7575 & \text{Int. for 1 year.} \\ \hline 4 & \\ \$75.0300 & \text{Ans.} \end{array}$$

Solution by Algebra.

$$\$3.75\underset{x}{.}15 \times \frac{5}{100} \times 4 = x$$

$$\$75.03 = x \text{ or Ans.}$$

2. What is the rate per cent. when the interest of \$450 for 2 yrs. 4 mo. is \$52.50?

$$450 \times .01 \times 2\tfrac{1}{3} \text{ yr.} = \$52.50$$

$$\begin{array}{r l} \$450 & \\ .01 & \\ \hline \$4.50 & \text{Int. for 1 year at 1\%.} \\ 2\tfrac{1}{3} & \\ \hline 150 & \\ 900 & \\ \$10.50 & \text{Int. for time given at 1\%.} \end{array}$$

$\$52.50 \div 10.50 = 5$ times 1% or 5%, Ans.

$$4.50 \times \frac{x}{100} \times \frac{7}{3} = 52.50$$

$$10.50\,x = 52.50$$

$$x = 5$$

$$\text{Ans.} = 5\%$$

3. In what time will \$280 produce \$25.20 with interest at 6%?

$$\$2.80 \times .06 \times 1 \text{ yr.} = \$16.80$$

$\$16.80$ = Int. for 1 year at 6%

$\$25.20 \div 16.80 = 1\tfrac{1}{2}$ times 1 year, or $1\tfrac{1}{2}$ years. Ans.

$$\$2.80 \times \frac{6}{100} \times x = \$25.20$$

$$16.80 = 25.20$$

$$x = 1\tfrac{1}{2}$$

$$\text{Ans.} = 1\tfrac{1}{2} \text{ yrs.}$$

4. What sum of money will produce \$25.50 interest in 2 years at 5%?

By Arithmetic:

$1 × .05 × 2 years = $.10

Divide the interest given in the problem by the interest of \$1 for the same time and at the same rate.

\$25.50 ÷ \$.10 = \$255. Ans.

By Algebra:

$$\frac{(\$x \times 5 \times 2)}{100} = \$25.50$$

$$\frac{10\,x}{100} = 25.50$$

$$10\,x = 2550.$$

$$x \quad \$255.$$

Ans.

Drill work, both in oral and written examples, is abundant in the standard arithmetics. See Milne's Arithmetic, pages 279 to 281, and Nichol's "Arithmetical Problems," pages 75 to 78.

Metric System.

This first month tell the children that it is a system of weights and measures used by most of the civilized nations of the world, and therefore called the International System. It has been legalized but not adopted by the United States government.

The unit for measuring length that corresponds to the English yard is the *meter*. For example, in Paris one buys cloth by the meter just as in New York one buys it by the yard. The meter is a little longer than the yard, containing about 3¼ feet.

All the other units of surface (square measure), volume (cubic measure), capacity (dry and liquid measures), and weight (avoirdupois and troy weights), are derived from the meter, which is a little less than one ten-millionth of the distance from the equator to the poles.

This system of weights and measures has a decimal notation, i. e., each denomination is ten times the one below it. Contrast the English linear table with the metric table to show the difference between a table with varying scale and one with a constant scale 10.

In forming the different denominations, there are three Latin prefixes used to designate fractional parts of the meter:

Decimeter, 1-10 of a meter.
Centimeter, 1-100 of a meter.
Millimeter, 1-1000 of a meter.

And four Greek prefixes to designate multiples of the meter:

Dekameter = 10 times a meter.
Hektometer = 100 times a meter.
Kilometer = 1,000 times a meter.
Myriameter = 10,000 times a meter.

Abbreviations, beginning with a small letter, indicate a fractional part of a meter:

dm = decimeter.
cm = centimeter.
mm = millimeter.

And those beginning with a capital denote a multiple of the unit:

Dm = dekameter.
Hm = hektometer.
Km = kilometer.
Mm = myriameter.

Measure of Length (*Our Linear Measure.*)

10 millimeters = 1 centimeter.
10 centimeters = 1 decimeter.
10 decimeters = 1 meter.
10 meters = 1 dekameter.
10 dekameters = 1 hektometer.
10 hektometers = 1 kilometer.
10 kilometers = 1 myriameter.

Foreign Money.

English or Sterling Money is the currency of Great Britain. The unit is the Pound or Sovereign.

Table.

4 farthings (far.) = 1 penny (d.) = about 2c.
12 pence = 1 shilling (s.) = about 24c.
20 shillings = (1 pound or 1 sovereign) £ = $4.8665.

Farthings are commonly written as fractions of a penny. Thus 7 pence 3 farthings = 7¾d. (The abbreviation *d* for pence comes from the Latin word *denarius,* a Roman coin of small value.)

£14-12-6 is modern for £14 12s. 6d.

12/6 is another modern form for 12s. 6d.

The value at par of £1 or sovereign, is $4.8665 in American gold. For class work it is better to take the quotation of exchange from the daily paper. The coins of Great Britain in general use are: Gold—Sovereign, half-sovereign, and the guinea (21 shillings). Silver—The crown ,equal to 5 shillings), half-crown, florin (equal to 2 shillings), shilling, six-penny and three-penny pieces. Copper—Penny and half-penny.

1. Reduce £2 10s. 6d. to lower denominations.
2. Reduce £13 5s. 5¾d. to lower denominations.
3. Reduce £45 3s. 9¾d. to lower denominations.
4. Reduce £75 to farthings.
5. Reduce 3-8 of a sovereign to lower denominations.
6. Reduce 3-7 of a guinea to lower denominations.
7. Reduce .65 of a pound to lower denominations.

Answers to the foregoing:

1.	2,424 far.
2.	12,743 far.
3.	43,383 far.
4.	72,000 far.
5.	7s. 6d.
6.	9s.
7.	13s.

Reduction ascending:

1. Reduce 34,567 far. to units of higher names.
2. Reduce 21,586d. to units of higher names.
3. Reduce 3,846 far. to units of higher names.

Answers:

1.	£36 1d. 3 far.
2.	£89 18s. 10d.
3.	£4 1d. 2 far.

SECOND MONTH.

Interest.

1.	Find interest of $740 for 2 years, 5 months, 20 days, at 6%.	$109.77
2.	Of $1,250 for 3 years, 1 month, 15 days, at 6%.	234.38
3.	Of $864 for 1 year, 3 months, 29 days, at 6%.	68.98
4.	Of $475 for 4 years, two months, 4 days, at 5%.	99.22
5.	Of $960 for 4 years, 3 months, 17 days, at 5%.	206.27
6.	Of $302 for 4 years, 9 months, 12 days, at 5%.	72.23
7.	Of $2,040 for 5 years, 11 months, 7 days, at 4%.	484.39
8.	Of $825.50 for 2 years, 11 months, 5 days, at 4%.	96.77
9.	Of $5,280 for 1 year, 8 months, 3 days, at 4%.	353.76
10.	Of $760 for 2 years, 8 months, 27 days, at 7%.	145.86

$$\left.\begin{array}{r}\text{Reduce the time to days}\\ \text{and express as a fraction of a year}\end{array}\right\}\begin{array}{rr}3 \text{ years} = 3 \times 360 = & 1{,}080 \text{ days}\\ 1 \text{ month} = 1 \times 30 = & 30\\ + & 15\\ \hline & 1{,}125\end{array}$$

Prin. Rate. Time.

$$\text{Then } \overset{6.25}{\$12.50} \times \frac{6}{100} \times \frac{\overset{75}{1125}}{360} = \frac{468.75}{2} = \$234.37\tfrac{1}{2}.$$

Give plenty of practice in this first case of interest.

Accounts.

Use a standard work on business forms—drill in writing Personal or Cash Accounts. (If Personal Accounts were taken up the first month, take Cash Accounts the second month, simply personifying *Cash.*)

Excellent definitions and full directions with regard to spacing, double lines, red-ink entries, etc., are found in these printed Business Forms.

Have the children write imaginary accounts again this month.

Review definitions and review Bills, which were taught in the previous grade.

Insist upon good, large, and legible writing in these Bills and Accounts, and upon the utmost accuracy; also upon proper spelling and punctuation, correct abbreviations, with periods, and upon absolute neatness in the ruling and a nice arrangement with regard to spacing, margins, etc.

(Continued in December number.)

Synonyms: Their Meanings and Uses—7 B

By Ignus O. Hornstein and Willard Myers.

7 B.

Associate and companion.

Associates (n.) are habitually together, *companions* only occasionally. An *associate* may take part in some business, and share with us in the labor; a *companion* takes part with us in some concern, and shares with us in the pleasure or the pain.

Southey, indeed, was in the commencement of his career the *associate* of Wordsworth and Coleridge.—Craik.

The *companions* of his falls suffered with him.—Milton.

Beg—desire.

One *begs* for that to which he advances no claim but pity. One *desires* an object near at hand, or near in thought, and viewed as attainable.

He *begged* his meals from door to door.

His *desire* for fame impelled him to nobler deeds.

Civil—polite.

Polite expresses more than *civil; politeness* is *civility* and something in addition. *Civility* is contented with pleasing when the occasion offers. Politeness *seeks* the opportunity to please; it prevents the necessity of asking by anticipating the wishes. *Civil* is therefore most properly applied to what passes from and to persons of inferior condition.

A *civil* man is one observant of slight external courtesies in the mutual intercourse between man and man.—French.

She is not *polite* for the sake of seeming *polite,* but *polite* for the sake of being kind.—Sarah Jewett.

Comparison—contrast.

Likeness in the quality and difference in the degree are requisite for a comparison; likeness in the degree and opposition in the quality are requisite for a contrast.

The miracles of the Old Testament and those of our Lord afford many interesting points of comparison.—French.

Place the prospect of the soul in sober contrast with reality.—Wordsworth.

Complaint—accusation.

A complaint is mostly made in matters that personally affect the complainant; an accusation is made of matters in general, but especially, those of a moral nature. A complaint is made for the sake of obtaining redress, an accusation is made for the sake of ascertaining a fact or bringing to punishment.

The complaint of the electors in England was that now, in 1692, they were unfairly represented.—Macaulay.

The accusation was made that Rutherford B. Hayes was elected by fraud.

Contact—touch.

Contact experiences a state that refers to two bodies actually in that state; touch implies the abstract act of touching. Words are distinguished not so much in sense as in grammatical construction.

Inner sunshine cheers not only the heart of the owner but all who come in contact with it.

Their touch outrages me as a serpent's sting.—Shakespeare.

Correct—accurate.

Correct applies to what which is done according to rules; accurate to that which is done by the application of the mind or attention to an object. What is done by the exercise of the effort of the individuals is more properly accurate observations.

Always use the most correct editions.—Felton.

I like thy florid language, and I like thine accurate description of my robe.—Edgar Fawcett.

Contented—satisfied.

One is contented when one wishes for no more; one is satisfied when one has obtained all one wishes. A contented man has always enough, the satisfied man has only enough for the time being.

A man is happy who is contented with his lot in life.

Having taxed the people to the utmost, King John was satisfied and turned his attention to other things.

Desperate—hopeless.

Desperate is applicable to people or things; hopeless to things only; as a desperate effort, a hopeless task. Desperate when applied to things expresses more than hopeless; the latter marks the absence of hope or to the removal of an evil.

Revolutions are the last, desperate remedies when all else has failed.—Froude.

When we got up the weather seemed very hopeless.

Different—unlike.

Different is positive; unlike is negative; we look at what is different and draw a comparison; but that which is unlike needs no comparison; a thing is not to be different from every other thing or unlike to anything seen before, which latter mode of expression obviously conveys less to the mind than the former.

Men are as different from each other as the regions in which they are born are different.—Dreyden.

Their uniforms are unlike to those of any other nation.

Definitions—explanations.

A definition is correct or precise; while explanation is general or ample. The former is confined to words, the latter to words or things. Definition admits of no more words than will include the leading features in the meaning of any term. An explanation gives unlimited scope for differences on the part of the explainer.

Definition is nothing more than making another understand by words what the term defined stands for.—Locke.

The perfect explanation of a thing shows all stages of its history.—W. F. Hairi.

Detect—discover.

Detect is always taken in a bad sense, discover is an indifferent sense.

A person is detected in what he wishes to conceal; a person or thing is discovered that has unintentionally lain concealed. Detection is the act of the passing moment; a discovery is either gradual or an immediate act, and may be made of that which has long since passed.

Plain good intention is as easily discovered at the first view as fraud is surely detected at last.—Burke.

Some went to discover islands far away.—Shakespeare.

Deduct—subtract.

Deduct is used in a general sense; subtract, in a technical. He who makes an estimate is obliged to deduct; he who makes a calculation is obliged to subtract.

Two and a half per cent should be deducted out of the pay of foreign troops.—Burnett.

Subtract twelve dollars from eighteen dollars and the remainder is six dollars.

Exit—departure.

Exit seems to convey the idea of volition; for we speak of walking or exist; departure simply designates the event. When we speak of an exit we think only of the place left; when we speak of a departure, we think of the place gone to.

The people hurriedly made their exits from the building.

His timely departure barred him from the knowledge of the son's miseries.—Sir P. Sidney.

Follow—pursue.

To follow a person is mostly with a friendly intention; to pursue, with a hostile intention.

In application to things, follow is taken more in the positive, and pursue more in the active sense; a man follows another's plan, and pursues his own policy.

If the power to lead is in you, other men will follow; if it is not in you, nothing will make them follow.—Hale.

The wicked flee when no man pursueth.—Prov. xxviii, I.

Final—conclusive.

Final designates simply the circumstance of being the last; conclusive the mode of finishing or coming to the last. The final is arbitrary; it depends upon the will to make it so or not. The conclusive is relative; it depends upon the circumstances and the understanding.

We accept as final, arbitrament of the sword to which our fathers appealed.—H. W. Grady.

Conclusive evidence was brought forward to prove the guilt of the prisoner.

Force—violence.

Force is ordinarily employed to supply the want of a proper will; violence, is used to counteract an opposing will. Force is mostly conformable to reason and equity; violence is always resorted to for the attainment of that which is unattainable by law.

The end of war is to procure by force the justice which cannot otherwise be obtained.—Kent.

The striking railroad men resorted to violence to secure their demands.

Invention—discovery.

We invent something new, contrived or produced for the first time. We discover what existed before, but remained unknown.

American prairies are at least a partial explanation of the invention of the steam plow.—R. T. Ely.

We speak of the invention of printing, the discovery of America.—French.

In—into.

In implies presence inside of, or within; into implies movement to the inside of.

Before a man can move in a room, he must already have moved into it.

The dog is in the water.

Carry the basket into the kitchen.

Inquire—investigate.

To inquire is to ask for information; to investigate is to make a thorough examination.

I will inquire the gentleman's name and rank.

A commission was appointed to investigate the cause of the strike.

Loan—lend.

The use of loan as a verb is sanctioned by good use. Properly the word is a noun, a loan is money which a person lends.

> Neither a borrower nor a lender be
> For a loan oft loses both itself and friend.—Shakespeare.

A bank lends money and charges the borrower a certain interest.

Liquid—fluid—gaseous.

When a thing is represented as passing from a congealed to a dissolved state, it is said to be a liquid: when we wish to represent it as capable of passing along in a stream or current we should denominate it a fluid. By gaseous is meant something which has the nature or form of a gas, aeriform.

Mercury is a liquid, yet it is almost twice as dense as steel.—J. O. Steele.

Water is an indispensable fluid.

It is next to certain that the sun is mainly gaseous.

Neglect—omit.

To neglect is a culpable action; to omit, an indifferent action. What we neglect ought not to be neglected, but what we omit may be omitted or otherwise, as convenience requires.

Everything wears the aspect of neglect and consequent decay.—E. Robinson.

Her father omitted nothing in her education that might make her the most accomplished woman of her age.—Addison.

Observe—watch.

These terms agree in explaining the act of looking at an object; but to observe is not to look at so strictly as is implied by to watch. We observe a thing in order to draw an inference from it: we watch anything in order to discover what may happen: we observe with coolness; we watch with eagerness; we observe carefully; we watch narrowly: the conduct of mankind in general is observed; the conduct of suspicious individuals is watched.

At certain times in the year it is interesting to observe the sun-spots.

I watched the growing plant with interest.

Plenty—abundance.

Plenty is enough; abundance more than enough. The expeditions had plenty of provisions, but none to spare.

Last year there was an abundance of corn; it was estimated that we had enough to feed the whole nation for two years.

Retard—hinder.

We retard or make slow the progress of any scheme toward completion: we hinder or keep back the person who is completing the scheme: we retard a thing therefore often by hindering a person. But we can hinder without expressly retarding, and we can retard without hindering.

Nothing has tended more to retard the advancement of science than the attitude of the ignorant toward it.

They get in each other's way and hinder one another.—J. K. Jerome.

Seem—appear.

To seem requires some reflection and comparison of objects in the mind with one another; it is therefore peculiarly applicable to matters that they may be different from what they appear. To appear, on the contrary, is the express act of the things themselves on us, it is therefore peculiarly applicable to such objects as make an impression on us: to appear is the same as to present itself.

The road seemed longer than usual.

The vision appeared before Joan of Arc's eyes.

Try—tempt.

To try is to call forth one's ordinary powers; to tempt is a particular species of trial: we try ourselves or others; we tempt others; we try a person only in the path of his duty.

Circumstances will try the metal man is really made of.—Collins.

Tempt not the brave and needy to despair.—Dryden.

Thankfulness—gratitude.

Thankfulness is the outward expression of a grateful feeling itself. Gratitude is the natural response of the heart to kindness intending or received.

His thankfulness for past favors seemed sincere.

That his gratitude was sincere was evident from the expression on his face.

Wisdom—prudence.

Wisdom is the general term and embraces the whole of practical knowledge. Prudence is a branch of wisdom. Wisdom directs all matters present or to come. Prudence, which acts by foresight, directs what is to come.

Common sense, to an uncommon degree, is what the world calls wisdom. —Coleridge.

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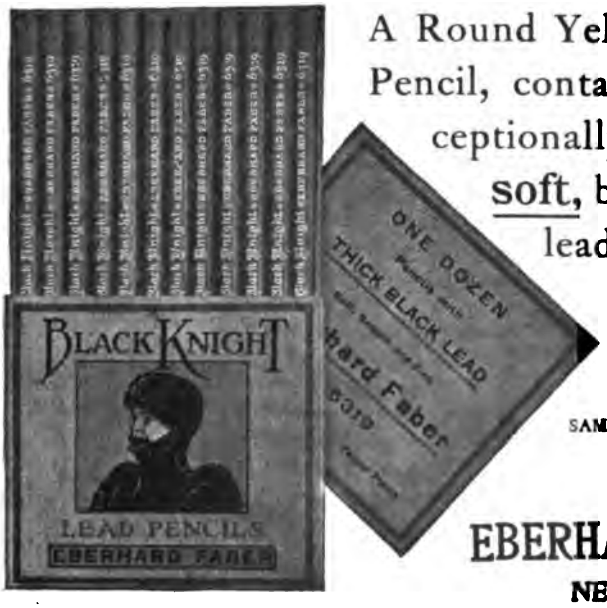

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Published March, June, October, December. Subscriptions may begin with any number.

The subscription price is One Dollar for four successive numbers. Single Copies 35 cents.

Copyrighted October, 1905, by N. Y. Teachers' Monographs Co.

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New York Teachers' Monographs
PLANS AND DETAILS OF GRADE WORK
DECEMBER 1905

How to Socialize Arithmetic—Grades 1 A to 8 B

By Lambert L. Jackson.*

We hear much about how to make arithmetic interesting, how to make it practical, how to make it easy, and how to modernize its problems; but a still more important question is how to humanize it, that is, how to connect it with the vital interests of life, or how to make it serviceable in attaining the common good.

In answering this question we shall be concerned with arithmetic as an art rather than as a science. We shall consider its value as an agent of utility rather than as one of discipline. Although these two phases of arithmetic are inseparable in teaching the subject, the emphasis may be shifted from one to the other at will, and we are concerned here with its uses.

The applications of arithmetic, particularly as set down in the older school books, stand simply for so many exercises in figuring and not for the details of a connected and suggestive story. Furthermore, they fail to touch the experiences and preferences of the child. A pupil in the fourth grade may be taught the arithmetic of the dry goods store, of the lumber yard, or of the banking house, but he has little real interest in it. The common impulses, activities and environment of children at any given age must determine the subject matter of arithmetic appropriate for them. There is suitable arithmetic for the school boy or girl as surely as there is suitable arithmetic for the merchant, banker, or mechanic.

To socialize arithmetic is so to select the subject matter and so to conduct the instruction that each individual pupil coöperates with his fellows in making use of the environment natural to his social group. The coöperative, or social element, is an important factor in making the quantitative as well as the qualitative side of a subject attractive. For example, a child is interested in counting marbles and in learning the rules of a game to be played with them, but he expresses many times as much satisfaction, if he is given a handful and told to go and play with his companions. A school girl may take interest in finding the area of a plot of ground, but she will be vastly more interested to measure a lawn and lay out a tennis court on which to entertain her friends. A boy may be interested in finding the cost of a mile of wire, but he puts his whole soul into planning and computing the cost of a telephone line for his neighborhood.

In order to clarify this idea and to make this article of more service to teachers, the following typical exercises and problems are given. They will illustrate a few ways of socializing arithmetic in the grades of the elementary schools:

Types of work for the first year—Grades 1A and 1B in New York City.

Plans of work in this grade must be quite simple on account of the limited number field in which the children work.

---

*Co-author Young and Jackson's Arithmetics.

1. A usable plan for large or small classes is to give each pupil slips of paper for folding. When each pupil has folded the paper into two or more parts, as he chooses, the children in adjacent rows of seats exchange papers. Each pupil counts the parts, or folds, and writes the number on the slip. After each exchange the teacher passes along the rows to see that the results are correct. Figure 1 shows that pupil *A* folded her slip into three parts and exchanged with *B* who folded hers into four parts. After counting the parts of the slips *A* and *B* marked them as shown in Figure 2.

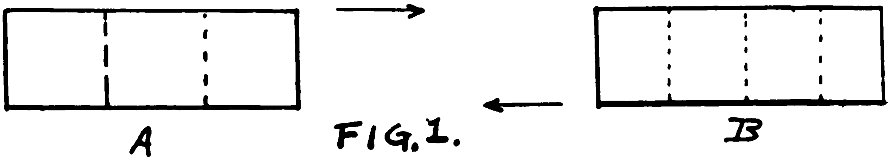


FIG. 1.

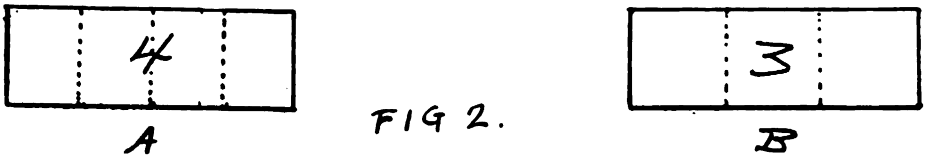


FIG 2.

2. In a similar way bundles of sticks may be passed between pupils in adjacent rows, the pupils counting and recording the number of sticks in each bundle received. The results may be read at the teacher's request, thus giving an opportunity for comparison and correction of errors. The proof should always be a recount of the sticks, not the teacher's authority nor the telling of another pupil.

3. The last pupil in each row may play that her row of seats is a trolley car and the pupils in that row her friends going on a trolley ride. She may find by counting how many friends her car will seat, how many friends are on the car, and how many seats are vacant. In the last half of the first year's work the children could find the cost of the trip to the museum and return. The topic can be made more effective as a number drill by supposing that three children were unable to go, and finding the cost for the remainder; then, by supposing that one-half could not go, and so on. The teacher can easily invent other plans of grouping children to furnish exercises in counting; for example, arrange them in groups according to height.

4. In the last half of the first year pupils may prepare number cards for exercises in additions. For example, pupils *A* and *B* prepare the cards shown in Figure 3. They exchange cards, write the sums, and exchange again. Figure 4 shows that

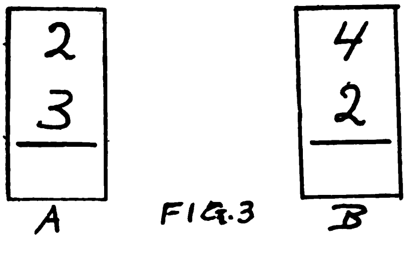


FIG. 3

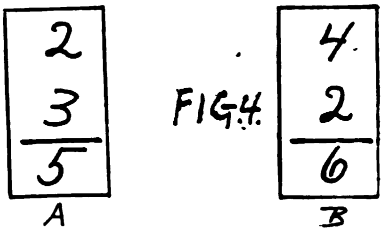


FIG. 4

A has back the card which he made, with the sum written by *B*, and similarly for *B*. After several exchanges the teacher may require each pupil to read the numbers proposed on his cards and the sums written by his neighbor. This fixes the responsibility for all errors and gives the opportunity to correct them.

These exercises employ mental activity in answering the number questions, physical activity in making the figures, and furnish opportunities for stimulating coöperation and competition.

Types of work for the second year—Grades 2A-2B in New York City.

Special work in the second year may be made more effective on account of the greater amount of fact matter. Besides the elementary sums and differences, the pupils are learning the elementary products. They also have acquired some facility in making figures, paper folding, drawing, and so on.

1. A second-year class applied their number work to some things which they saw in the school room:

a. They counted the window panes in each sash, the sashes in each window, and the windows in the room. From this they found the number of panes of glass in the windows of their room.

b. They counted the jets on each chandelier and the chandeliers in the room. They found the number of jets in their room and in the eight rooms of their school building.

They observed the gas fixtures and electric fixtures at home and reported that some had two lights, some three, and some four. From these facts many more problems were made and solved.

c. They counted the trays of paint in their water-color boxes and found the number of trays used by each row of pupils and by the whole class. They also found the total cost of their outfits.

2. Children may also observe things out of school hours and report the data for problems. For example, each pupil may report the number of robins seen by him during the first week of spring, or the number of moths caught in one week of June.

3. Children in the second year may learn to read the common postage stamps and to make problems about them. They can also tell the prices of various newspapers and how much boys make by selling them.

4. In most cities there is at least one bank that maintains a children's saving department. These banks issue books ruled in squares similar to the standard stamp collector's books, and one-cent stamps. Children purchase these stamps at the bank for one cent each and paste them into the book, which serves as a bank book and is redeemable at the full value of the stamps contained. The diagram shows a page of such a book with two stamps attached.

Since money deposited in this manner does not draw interest, banks can afford to take the trouble of issuing the stamps. The plan is so attractive that the total of the deposits per year become quite large.

One of these little books furnishes good material for number work. The groups of five in columns and rows, the pages of 25 cents each, and the leaves of 50 cents each, illustrate the principal aliquot parts of a dollar. Thus the children may be asked to state how much they could save in a week, in a month, in a year. It is easy to compute how much the children of a family could save, how long it would take them to save enough to purchase their school books, and so on.

Teachers can, using the oak-tag manilla paper furnished to schools, with the aid of the mimeograph or other duplicating device, easily furnish each child with a copy of a page of such a book. Cancelled postage stamps might be used to fill the squares.

Types of third-year work—Grades 3A and 3B in New York City.

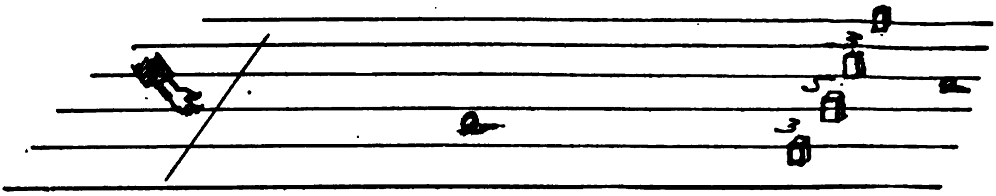
In the third year the elementary facts of addition, subtraction, multiplication, and division have been quite fully covered, and the chief object of class work is drill in these processes. "Drill" is a suggestive word; it expresses so well that wearisome routine upon which all proficiency seems to depend. We must grant that routine is essential, but it is possible to make it less wearisome than formerly. In fact, teachers must do less drilling in abstract numbers and pursue less exhausting methods, or the imaginative minds of children will be irreparably dulled.

One of the most effective ways of securing pleasant drill is through number games. Of course, these are not confined to third grade work, but are helpful throughout the primary grades, and their use is steadily increasing.

1. Four blocks are placed on the floor 8 feet from a chalk line, making three alleys through which to roll marbles.

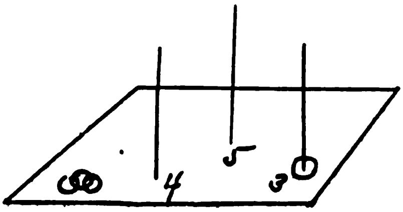
The spaces are numbered 3, 5, 3, as shown in the diagram. These numbers are changed in various ways to furnish drill in the multiples of the numbers from 1 to 9.

The pupils take turns in rolling 5 marbles over this course. While each pupil plays, the remainder of the class computes the count and tallies it opposite to the pupil's name on a slip of paper. After 10 or 15 minutes of this exercise the pupils compare their scores. The teacher has kept all scores accurately and is able to determine which pupils are correct. The slips may be preserved as a record of the pupils' recitation just as any other written work.



This game may be varied by rolling marbles into rings differently numbered; also by rolling marbles through numbered arches in a board.

2. Besides marble games there are the ring toss games. The player standing 6 feet from the table is given a certain number of rings which he tries to throw one at a time over some pins set vertically in a board. The pins are numbered arbitrarily to suit the number work, as 3, 4, 5, in the diagram. The count and the method of conducting the exercise are similar to those of the marble game.



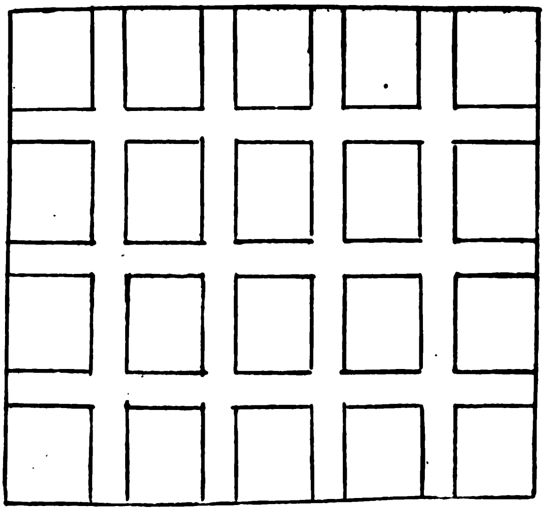
3. The bean-bag and shuffle board games are other exercises of this type. Dominoes and lotto are usable material.

Number cards have been devised for drill in the operations with small integers and fractions. These may be had at the toy stores and from educational supply houses.

Types of work for the fourth year—Grades 4A and 4B in New York City.

Pupils in this grade are old enough to have definite purposes for which they wish to use arithmetic, and the teacher can obtain many good topics by talking with the children about their earnings, purchases, savings and other interests.

1. A class of 20 pupils are to have a garden for nature study. The space allowed them is 21 ft. by 20½ ft., as shown in the diagram. The beds are to be 4 ft. long and 1½ ft. apart. The teacher plans a diagram on the board, like the one shown, and assists the pupils to answer questions like these: How wide must a space be to contain just 4 four-foot beds separated by walks of 1½ ft. wide? How does this width compare with the width of the garden? How many walks run from right to left in the diagram? How much of the length of the garden do they occupy? How much space is left for beds? How many beds are needed to supply the whole class? How many rows of 4 each? If the garden is divided into 5 rows, what is the width of each bed?



20½ ft. wide.
21 ft. long.

The class may be taken to the garden to measure the ground and to mark out the walks and beds. Then, there are questions about the spades, the markers, and the seed planters, to be used in the garden. Each pupil must have tools which may be made at the manual training bench, and these furnish opportunities to apply arithmetic. For example, if a spade is to be 2½ ft. long, and the blade ⅗ of this length, how long is the handle? If the spades are 5 inches broad and are cut from inch boards 5 inches wide, how many board feet of lumber are needed for one spade? For 5 spades? For enough to supply the whole class? Find the cost of this number at $12 per thousand? What would 100 seed markers cost at 5 cents per dozen? And so on. Then there are questions about the amount and cost of seeds to plant the garden, and about the probable harvest.

2. The twenty-five children of a fourth-year class make book-bags in the period devoted to domestic art. In the period given to arithmetic the teacher has a sample book-bag measured and the pupils find how much cloth it contains. They find how much is needed for five book-bags; for 10; for 15; for enough to supply the whole class. The bags require some tape to tie them. This is measured and the amount and cost of the tape are found. It is decided to work a monogram on each bag, the cost of which is estimated, and the total cost of the book-bags is calculated. Such exercises furnish the occasion for discussing different grades of material and their cost, thus leading to data for many problems in arithmetic.

3. Children in the large cities often take their mid-day lunches at a restaurant near the school building or at lunch counters managed by the school. Cards showing the kind of food and their prices, similar to menu cards, are given to the children. A fourth grade teacher used some of these cards as a basis for exercises in arithmetic. The pupils took turns in acting as clerks and customers. The customers gave their orders and the clerks computed the cost. The customers also computed the cost of their orders as a check upon the accuracy of the clerks, as would be done in actual transactions.

4. A class in a school in New York City visited a farm in the suburbs in order to gather data for science and geography work. The teacher took advantage of the occasion to give an arithmetic lesson. From the car fare and ferry-boat fare, each pupil computed the cost for the children in his own row of seats. The first pupil in each row collected and counted the required amount. The sums collected from all the rows were added, and the total was divided by the whole number of pupils in order to verify the result. The day after this excursion the pupils solved problems about the distances that they had traveled, about the size and divisions of the farm, and about the cattle and crops which they had seen.

Types for fifth year work—Grades 5A and 5B in New York City.

The fifth year marks the real entrance of the pupil into business arithmetic. The chief use of decimals is found in computations with United States money, and the most important process is addition. This accounts for the emphasis placed on the use of bills in the arithmetic work of this and the following grades. But footing bills day after day, as they appear in the formal lists in text-books, is not inspiring work, hence any means of giving variety and fresh data help to make the exercises less irksome.

1. In doing this some coöperation may be secured by dividing the class into two groups, clerks and customers of a department store. In order to facilitate the making of bills, lists of goods and prices are prepared in advance, or catalogues are placed in the hands of the pupils. The clerk furnishes the customer with a sales check, that is, a memorandum, or bill, and records the total on a slip of his own. The customer also adds the items of his bill and places it on file as a record of his work. Thus, from the clerk's slip and the customer's check, the teacher is able to discover any errors and to give credit for all work correctly done.

2. Another way to obtain first hand material in a coöperative way, is to request the pupils to bring bills and memoranda (not valuable as receipts) from their homes. These data are preferable to book exercises on account of their variety and atmosphere of reality. Price lists, announcements of auctions and of special sales in dry-goods stores also furnish excellent data for practical problems.

3. Children in the fifth year should be encouraged to visit stores and other places of business to collect data for problems in arithmetic.

Types of sixth year work—Grades 6A and 6B in New York City.

Arithmetic is commonly associated with the mercantile and sordid side of life. Although the Herbartians claimed for it an ethical element, the average citizen would scarcely suspect it. But there are problems which the pupils of the upper grammar grades may solve, and which are concerned with justice and altruism.

1. Instead of having a Christmas tree, a sixth year class planned to make a collection for charity. They furnished what articles they could and solicited from other people. After the articles had been collected they made a list of them with their values as follows:

2 bushels potatoes, $.60 a bushel.
1½ bushels apples, $.80 a bushel.
¾ bushels onions, $1.50 a bushel.
½ bushel beans, $2.50 a bushel.
5 pounds butter, $.20 a pound.
5 pounds tea, $.50 a pound.
5 pounds coffee, 30 cents a pound.
100 pounds flour, 4½ cents a pound.
20 pounds sugar, 5¼ cents a pound.
5 pairs shoes, 75 cents a pair.
2 suits clothing, $2.25 each.

Each pupil computed the total value of the contributions and found the average sum contributed per pupil. Some members of the class were able to tell about how much it costs per day for a poor family of, say, four persons to live. From this the pupils were able to find how many days' living their collection was equivalent to. On this basis they were able to calculate how many destitute families all the school children in the city could support during the winter, if they all followed the plan of this class.

2. Another class became interested in the Fresh Air Fund, and gathered statistics about the cost to the managers of keeping a child at a country home during the hot months, also the cost of giving 100 children a day's outing at the seashore, and other data. From these facts they found how much good might be done, if every school-boy and girl in the city would give 10 cents to the Fresh Air Fund.

3. A class in a small village school planned a sale of articles made by themselves in order to purchase pictures for their room in the new school building. The following are samples of what these children made for the sale:

Susie made 2 sofa pillows which sold for $1.50 each.
Frank made 4 raffia baskets which sold for 50 cents each.
Mary made 9 handkerchiefs which sold for 40 cents each.
Jennie made 3 aprons which sold for 60 cents each.

The class computed the amount and cost of the materials required for the various articles that were to be made and fixed the selling price so as to make a profit of 50 per cent. This data, together with the cost of the pictures, furnished a basis for several problems in arithmetic.

Types of seventh year work—Grades 7A and 7B in New York City.

Pupils in the seventh and eighth grades of our elementary schools are interested in the economic and industrial problems of our people.

1. A seventh year class examined a file of Farmers' Bulletins issued by the United States Department of Agriculture. From these they learned how strawberry, raspberry and celery plants should be grown, what it costs to plant and care for them until they yield crops for the market, and the usual amount and value of such crops. From these facts the class computed the net profit per acre of each kind of plant and determined the most profitable kind to grow.

2. They also found from these Bulletins and from commercial geographies the method of planting, the yield, the cost of care, and the value of the fruit of the coffee-tree, the orange-tree, and the pimento-tree. From these data they were able to compute the net profit from an acre of each kind of tree, and to determine which was most profitable.

3. Another class examined some year books issued by the leading newspaper offices of the country; for example, the New York World's Almanac, and found the number of dollars spent for educational purposes in each State of the United States during the previous year; also the number of school children in each State. From these facts they found how much each State spent per capita on the education of its school children.

Types of eighth year work—Grades 8A and 8B in New York City.

1. Teachers everywhere are discarding the old plan of depending entirely upon the text-book for subject matter. Excellent and indispensable as these books are, they narrow and distort the world of experience through which the learner should freely move. Excursions into fields, parks, and forests, visits to museums, art galleries, and factories are the means of obtaining first hand experience or fresh material for study. No teacher to-day would think of teaching botany from only the pictures of plants, or drawing from a copy-book, or language from exercises in false syntax. Then, why not break the tradition which binds the pupil to the abstract exercises of the old style arithmetic? The quantitative side of human instincts is in evidence everywhere, and the teacher who fails to take advantage of this first hand material is likely to make the study of arithmetic insufferably dull.

1. An eighth year class on the way to a botanical garden counted the street cars which they passed. The trip having taken a half hour, they were able to find the number of cars being run over that line per day. They noted the number of passengers carried by various cars in order to compute the average number carried per car. They inquired concerning the salaries of motormen, conductors, and electricians, the cost of the power to run a car for one day, the cost of building street-railways per mile, the number of miles in the line and the cost of street cars. Such data as they could not get on their journey they afterward found in catalogs and reports in the libraries. From these facts they were able to approximate the amount of capital invested in the railway, the expenses of the company per year and earnings of the road. Having allowed a reasonable rate of interest on the capital and a sufficient amount to cover repairs and improvements, they computed the amount which the company could afford to pay the city for the privilege of using its streets. The teacher, however, explained that their city government held that the citizens should offer such privileges as inducements to promotors to install works of public utility. This led to an examination of railway commissioners' reports and to the computation of the net profits of various street-railway companies in order to ascertain whether cities can afford to make presents of their franchises.

2. While these pupils were in the gardens they learned the size of the city park, the value of the ground, the nature and probable cost of the improvements that had been made, as walks, drives, gardens, lakes, shrubbery, lighting and drainage, and the probable cost of maintenance. They estimated the number of people who visited the park daily. With this data and what they found in the report of the park commission, they computed the annual cost to the city of this public pleasure ground, and the amount expended per capita of those benefited. By gathering from books facts about other cities, they were able to form a fairly accurate idea of the park space that an enterprising city should provide for its inhabitants.

3. In a similar manner problems may be drawn from the water supply, the lighting systems, the garbage system, the express and mail services.

Hygiene—1 A Grade

By Edith M. Pheasby.

How many children have pussy-cats at home? How many ever saw pussy wash herself? When does she wash? Yes, after every meal and very often between meals. In fact whenever she thinks it necessary. If it is so important for pussies to wash often it is certainly more so for little boys and girls. Our bodies need bathing just as often as pussy's does. Not only our hands and faces, but our whole bodies.

The whole body should be washed once every day. The very best time is early in the morning as soon as we rise from bed. It is best not to become wet all over at once. Just wash one part of the body at a time, dry quickly with a rough towel and so on. An early morning bath makes us feel more like working and better and fresher all day. Sometimes a warm bath just before bed-time makes people sleep well.

The hands and face should be washed very often as they are very apt to collect little particles of dust.

The Skin: You know the skin has its work to do just as little boys and girls have. All over the skin are little holes called pores. When we are very warm these little pores let out the perspiration. If they become clogged with dirt they cannot work well. This makes people ill. In hot weather when we perspire most we should wash very often indeed in order to keep these little pores clean.

Hair: We should be careful to comb and brush our hair neatly every day. It should be brushed well and often. This will make it grow very smooth and glossy. Even the little birds comb their feathers every day; usually after having a bath. How many children have canary birds? If so, watch birdie pull his feathers through his bill, for this is the way he combs them.

Hands and Nails: The hands need washing oftener than any other part, because we use them so much. How can we have clean writing papers if our hands are dirty? Have them well washed before and after dinner as well as before school in the morning. Do not forget to wash them before and after supper.

What do we find growing at the end of each of our fingers? How can we keep the nails clean? Not only should they be washed well but brushed also. How many children have a nail brush? How many would like to have one? Perhaps you could earn one by saving the pennies you get for helping mamma or for going to the store. I know some boys who deliver orders for the grocer on Saturdays and earn money in that way. You might be able to do this, too.

The Teeth: Why do we need teeth? How can we make them look like rows of little pearl soldiers? If we want to preserve them and not have toothache we should clean them well. They should be brushed after every meal and at bed-time; not only in front but between, and behind them as well. This is quite hard work, for these little soldiers do not break ranks, so we have to brush them as they stand. We should not prick our teeth with pins or crack nuts with them. This scratches and breaks the enamel which covers them. If the enamel is hurt in any way the teeth do not look so nice and besides it causes us much pain.

Cider: How many children have eaten apples? How many like them?

Yes, nearly every one likes to eat apples, they are so juicy and sweet. Apples are a very healthful fruit, too. No one thinks it wrong to chew an apple and swallow the juice. Yet this juice is made into what is called cider, and that is a harmful drink.

There is a difference between the juice which we press out of the apple with our teeth, and that pressed by the mill. The juice which we swallow contains no alcohol and that which we obtain from the mill may have some in it. When the juice is pressed out at the mill and left in a warm place, it begins to change. Bubbles begin to rise and then we know alcohol is being formed. Then it is no longer a harmless drink.

Why harmful? It is harmful then because the alcohol in the cider may make one want more and more of it; in fact, make people care more for that than anything else. It makes the mind dull so we can neither think quickly nor well. It causes the stomach to become red and swollen and then the food cannot digest well. When the food in the stomach is turned into blood it is carried all over the body by the little arteries. Of course the alcohol which was in the stomach is taken along too. Instead of making the muscles strong as good food does it turns them into fat. It makes the heart weak and hurts the lungs.

Wine: How many children remember the story of "The Fox and the Grapes?" I think we all like to look at a bunch of grapes hanging on a vine just as much as the fox did. I think we should like to eat them too, for they are as pleasant to eat as they are to look at. The juice is sweet and healthful too; but even this juice can be made into something to harm us. By letting it ferment the sugar in this juice is changed to alcohol. This grape juice is then called wine and is harmful because it has alcohol in it.

Beer and Whiskey: We have all seen an ear of corn and I am sure many of us have eaten corn from the ear. Sometimes instead of cooking the corn these little kernels are picked from the ears and planted to make more corn grow. Sometimes these little kernels are kept wet and put in a warm place but not planted. They begin to grow just the same. Instead of letting them grow until they are large plants, the kernels are taken, cracked and put in water. After awhile something is added to this sweet juice and alcohol is made. Then it is called whiskey. Of course we know we should not drink this as anything containing alcohol is hurtful.

From another of the grains called barley, beer is made, which is almost as harmful as cider, or wine, or whiskey, for it, too, contains alcohol.

Tobacco: Did you ever run or play so hard that you got all out of breath? If so did you feel how fast your heart was beating? It almost hurt you, didn't it? This is called palpitation of the heart. Smoking cigarettes will cause this. They make the heart beat fast, then slow, then fast again. They make one grow faint and sick and cause pain in the left side. Any boy who smokes tobacco in any form will not become a strong, healthy man. Tobacco not only hurts the heart but the throat and lungs also, because the smoke is often inhaled. It causes a cough, which cannot be cured unless smoking is given up. The boy who smokes loses his appetite and his head becomes so dizzy that he cannot study well. His teeth become discolored and his clothes smell disagreeably. If it were right to smoke why should a boy run and hide so no one will see him?

Lessons to Illustrate the Story of "Hans and Gretel" Given by a Special Teacher

Reported by MINNIE A. JONES, P. S. 21, Brooklyn.

I.

Where Hans and Gretel Lived.

Hans and Gretel lived in Germany on the edge of what they called the "Black Forest," a great big dark place full of trees.

Begin with oblong. See 'a," Fig. I. Draw a line across "Where sky seems to stop," or any other phrase to denote sky line.

Then draw trees with soft back and forth strokes and trunks darker. Use colored crayons. Let pupils color the sky blue lightly, trees green and leave ground white for snow. Do trees and sky-line in pencil lightly first and go over them with the crayons.

Fig. I

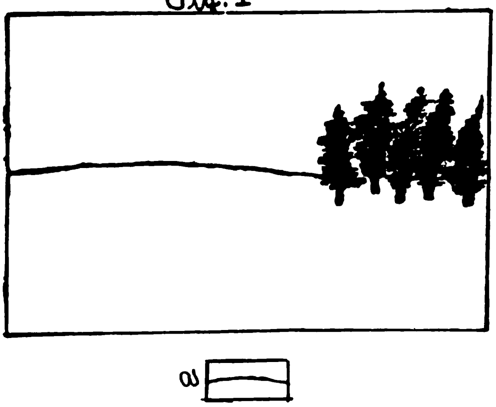
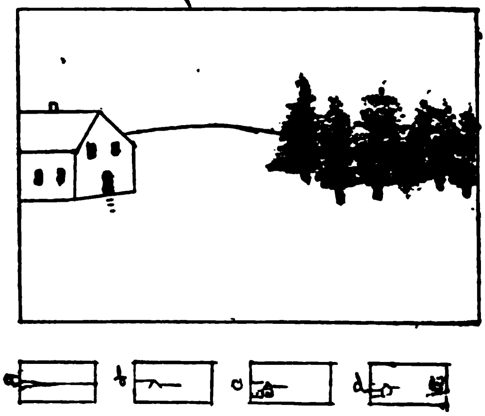


Fig. II



II.

Hans and Gretel's House.

Begin with oblong the same as in figure one and with the skyline. Draw roof line. See "a," Fig. II. Draw front of house and edge of roof. See "b," Fig. II.

Draw bottom of house, windows and doors. See "c," Fig. II.

Draw trees. See "d," Fig. II.

After drawing in pencil, color roof of house red, sky and trees same as in Lesson I. The windows and doors of house may be left in pencil or colored brown. Ground white for snow.

III.

Hans and Gretel go to the Forest to see Their Father Cut Wood. See Fig. III. Follow the directions given in Lesson I. in regard to oblong sky and trees.

Two little children may be cut from jointed figures or from cuttings of "Babes in the Woods."

Children colored black or brown.

IV.

The Birds Pick up the Crumbs.

Hans knew that his mother wanted to lose the children in the woods because they were so poor, so he crumbled a little piece of crust all along the path, hoping by this means to find the way back home. The little birds came and ate the crumbs and Hans and Gretel were lost in the great black forest.

Fig III

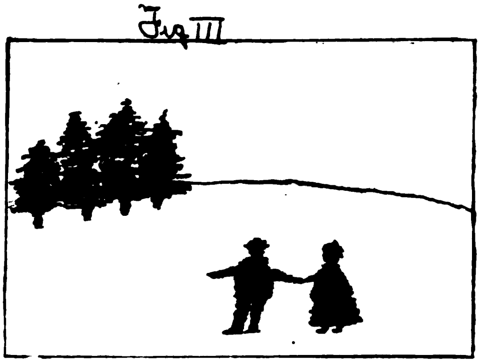
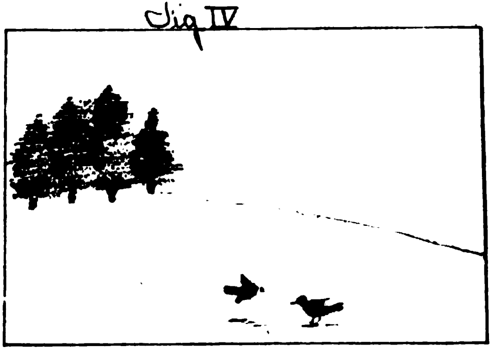


Fig IV



Follow directions given in preceding lessons for drawing of oblong skyline, and the coloring of trees and sky. Color birds brown. See Fig. IV.

Fig V

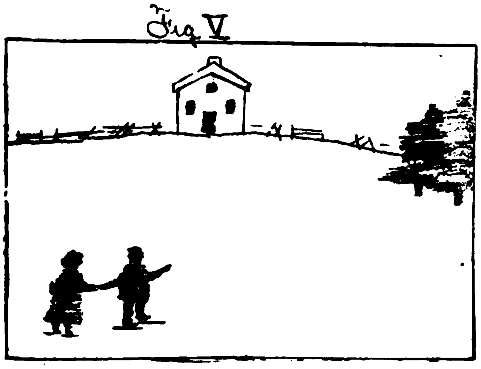
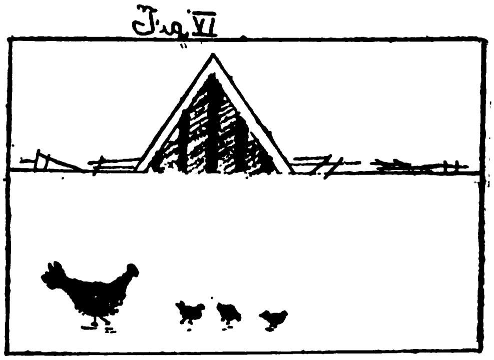


Fig VI



V.

Hans and Gretel find the witch's house.

The children wandered through the woods until they came to a house made of cake and windows of candy, where lived an old witch who caught little children, cooked and ate them. See Fig. V.

Follow directions for drawing and coloring as given in preceding lessons.

VI.

Witch's Hen House.

The old witch locked Hans in the hen house and fed him to fatten him for dinner. Gretel is made to help with the work.

For drawing see Fig. VI.

Color sky blue, hen brown, chickens yellow, house brown.

Fig. VII

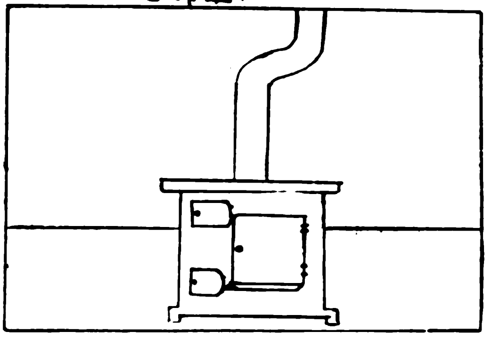
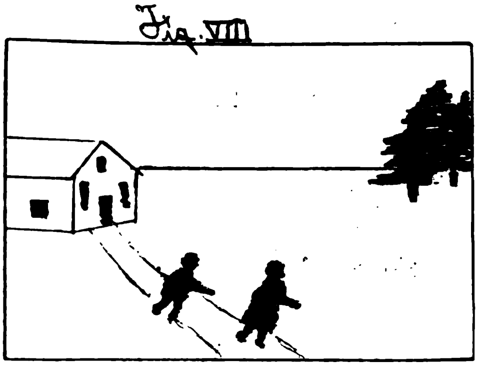


Fig. VIII



VII.

Witch's Stove.

The old witch told Gretel to get in the oven and see if it was hot enough. Gretel said she did not know how, so the witch poked her own head in to show her, when Gretel pushed her way in, shut the door and baked her well.

For drawing see Fig. VII.

Draw from copy on board or from cuttings.

VIII.

Hans and Gretel's Escape.

Gretel then took Hans out of the hen house and they ran away with the witch's treasure.

For drawing see Fig. VIII.

Follow previous directions for drawing and coloring house, trees, sky and children.

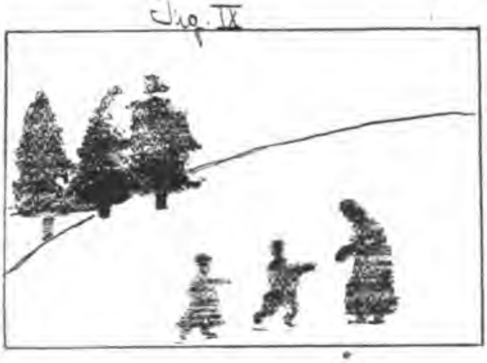
Work from small jointed figures to get running position of children.

IX.

Hans and Gretel find the way home to their mother with the witch's treasure and live happily afterwards. See Fig. IX.

Follow directions for drawing and coloring as given in Lesson VIII.

Fig. IX



Lesson Studies in Poetry

FIRST THREE YEARS.

BY GEORGIANA E. BROWN, Principal P. S. No. 91.

FIRST YEAR.

Cradle Song—From the German.

Lesson I.

Perhaps some little boy or girl will tell me what time he goes to sleep at night. And sometimes, its quite dark when you go to sleep—isn't it?—and everything is quiet. Now when the sun goes down, and it grows dark, the chickens go to roost, and all the little birds go to sleep in the trees. But mother often sits up long after everything has gone to rest and long after the children have gone to bed. I wonder if the little boys and girls *here* remember when mother used to rock them in her arms and sing them softly to sleep. And then she laid you quietly and gently in your little beds. (The teacher recites.)

Sleep, baby, sleep!
Thy father is watching the sheep!
Thy mother is shaking the dreamland tree,
And down drops a little dream for thee,
Sleep, baby, sleep!

Isn't that something like what she sang? That's what this mother sings. Just listen how beautiful it is! (The teacher repeats the first stanza.) What is the father doing? Yes, he's away off on the hillside, watching the sheep, and mother is at home singing this beautiful lullaby. (The teacher reads.)

Sleep, baby, sleep!
Thy father is watching the sheep!
Thy mother is shaking the dreamland tree,
And down drops a little dream for thee,
Sleep, baby, sleep!

And baby falls asleep and dreams oh, such beautiful dreams (the teacher repeats the stanza). I wonder where these beautiful dreams come from? Don't you think mother brings them from the beautiful dreamland where the angel babies dwell? (The teacher recites.)

"Thy mother is shaking the dreamland tree,
And down drops a little dream for thee,
Sleep, baby, sleep!"

Now listen and I'll read you this beautiful baby song (the teacher reads the first stanza and continues): I wonder if any little boy or girl can say this beautiful song to me, gently and softly, just as the *mother* sang it when she put her sweet little babe to sleep. The teacher might ask one or two more of the pupils to repeat the stanza in the same way for the purpose of familiarizing the class with it.

One of our highest authorities in teaching, Dr. Frank McMurry, has suggested that an effort should always be made to enlist the sympathy and interest of the home in the studies of the child, and with this idea in view, the teacher might request the children to repeat the stanza to mother at home before going to bed and bring back word next day what part mother thought the most beautiful.

Lesson II.

The teacher begins by asking successively the most likely pupils to tell her what line of the baby song mother liked best, and after getting the interest of the children this way, she might repeat the whole of the first stanza. And now, listen, children, while I read about baby's wonderful dream (the teacher reads):

Sleep, baby, sleep!
The great stars are the sheep,
The little stars are the lambs, I guess;
The bright moon is the shepherdess,
Sleep, baby, sleep!

Now baby's fast asleep and away off in dreamland. What does baby see in her dream? (stars, moon). Oh, yes, she sees myriads and myriads of stars, away up in the sky, and some of them are large and white and beautiful and some of them are tiny, little, twinkling stars—and oh! there are so many of them, all over, as far as baby can see. There are stars and stars and stars. And what does baby think these stars are? (sheep). And the little tiny stars, what does he think these are? (lambs). Yes, sweet little lambs. And who is watching over the lambs? (moon). Yes, the bright moon is the shepherdess. This is what baby dreams—Listen.

The great stars are the sheep,
The little stars are the lambs, I guess;
The bright moon is the shepherdess,
Sleep, baby, sleep!

I wonder who can tell me baby's dream? Listen while I tell it to you as *mother* sang it to baby (the teacher repeats the second stanza). Who can give me the first line? the second? and so on. The teacher might read the entire stanza as often as she considers it advisable, until the children become familiar with the whole stanza. In the line of thought given at end of first lesson, she might suggest to the children to tell mother all about baby's beautiful dream.

Lesson III.

This period might be given to hearing the children repeat the two stanzas already learned from memory. The teacher might then take up the third stanza explaining to the children that the mother is still singing, just what she sang before baby went into dreamland and this is what she sings:

Sleep, baby, sleep!
Thy father is watching the sheep!
Thy mother is shaking the dreamland tree,
And down drops a little dream for thee,
Sleep, baby, sleep!

The teacher repeats the third stanza which, although identical with the first, has a slightly different meaning, being more in the line of a refrain in connection with the second. Then she might repeat the song from the beginning and after the children have caught the rhythm of it, she might call upon them to repeat the stanza softly and sweetly, suggesting to the children to repeat it at home.

SECOND YEAR.

Dutch Lullaby—Eugene Field.

Lesson I.

Now we are going to read to-day about three wonderful little sailors that went off in a wonderful little boat and sailed over, oh! such a very wonderful sea. Have you any idea what they sailed out in this wonderful sea for? Just listen (the teacher reads the entire poem with as much dramatic effect as possible and then goes back to the first two lines):

Wynken, Blynken, and Nod one night,
Sailed off in a wooden shoe,—

This is a very strange way to sail off, isn't it?—"in a wooden shoe." This is a very mysterious kind of a boat Wynken and Blynken and Nod sailed off in. But you know, these were very strange and wonderful little people, and what peculiar names they have!

Wynken, Blynken, and Nod.

Do you think they had any sails on this wonderful shoe-boat? (yes, no). No, they had no sails on this strange little ship. It was just carried away off on the wind and Wynken and Blynken and Nod were just as happy as happy could be. Listen.

Wynken, Blynken, and Nod one night,
  Sailed off in a wooden shoe,—
Sailed on a river of misty light
  Into a sea of dew.

A strange river, too, they were sailing on—this river of "misty light." It isn't the kind of a river you and I have in mind. This was a river of "misty light." Now, if you were away out in the country where the mountains are, you could see in the late afternoons, just before dark, great white birds, with their wings outstretched, sailing through the "misty light" into the far away skies. This is the kind of river that Wynken, Blynken and Nod are sailing on. And they sailed on and on and on, just like that bird, until they came to what? (the beautiful sea of dew). Yes, a wonderful and beautiful sea of dew, with the twinkling stars shining all about them, and the beautiful old moon coming up from the horizon, sailing up the sky. And the old moon seems quite astonished to see Wynken, Blynken, and Nod, and wonders what they are there for? Listen:

"Where are you going, and what do you wish?"
  The old moon asked the three.

And now these three little people tell us what they are after. What is it? (the teacher reads):

"We have come to fish for the herring fish
  That live in the beautiful sea,"
  Nets of silver and gold have we,

Said Wynken,
Blynken,
And Nod.

Why do they bring nets of silver and gold? (to catch the herring fish). Do you think they could catch the fish in this wonderful, beautiful sea and all these twinkling stars shining around about them and the silver moon looking down, with the same old nets that the fishermen use? Oh, no, they couldn't catch these fish with such nets. They must have nets of silver and gold in this beautiful sea—(the teacher reads):

"Nets of silver and gold have we,"
Said Wynken,
Blynken,
And Nod.

Here the teacher might read the part of the poem just studied, asking the pupils to think of the beautiful pictures in this stanza. She might then call on several pupils to tell of the pictures they have in mind.

1. Wynken, Blynken and Nod setting sail in the shoe.
2. Picture of the "misty river."
3. Picture of the beautiful sea, stars, moon.
4. Picture of Wynken, Blynken and Nod fishing with nets of silver and gold.

Then the teacher might read the stanza once more and call on the pupils to recite.

Lesson II.

Now, to-day, we are going to see how our three little fishermen, Wynken, Blynken, and Nod, got along on their fishing trip. What were they doing when we left them? (fishing). Well, they were *going* to fish but something happened first. Listen, while I read:

The old moon laughed and sung a song
  As they rocked in the wooden shoe;
And the wind that sped them all night long
  Ruffled the waves of dew."

Dear me! how strange it is to think of the old moon laughing. Have you ever seen the moon laughing? Well perhaps not; but you know these three little fishermen are away up very near the moon "in the beautiful sea of dew" and they hear all the wonderful things the moon has to say and all the wonderful things the moon does. What else did the moon do? (sang a song). And Wynken and Blynken and Nod looked up at the old moon and wondered what it all meant. And all the time, the strange little ship rocked into the waves of dew (the teacher reads):

"The old moon laughed and sung a song
  As they rocked in the wooden shoe;
And the wind that sped them all night long
  Ruffled the waves of dew."

Now, we'll see what kind of fish they are going to catch. Just listen:

The little stars are the herring fish
  That lived in the beautiful sea,

"Now, cast your nets wherever you wish,
But never afeard are we!"
So cried the stars to the fishermen three,—
Wynken,
Blynken,
And Nod.

So *this* is the kind of fish that Wynken, Blynken and Nod were expected to catch. What were the fish they were after? (little stars).

The little stars were the herring fish
That lived in the beautiful sea.

And now we know why they had nets of silver and gold. I wonder why? (to catch these little starry fish).

I wonder if there were many of them. Oh, millions and millions of them and they blinked and twinkled and laughed at our three little fishermen in their strange little boat. And what did they say to Wynken, Blynken and Nod? Listen:

"Now cast your nets wherever you wish
But never afraid are we."

Why weren't they afraid? (they knew Wynken, Blynken and Nod couldn't catch them). Yes, so they laughed and laughed and laughed and Wynken and Blynken and Nod laughed, too. It was all so very funny. The teacher now repeats the entire stanza and calls on different pupils to recite the stanza.

Lesson III.

Now, where did we leave our three little fishermen in the last lesson? (away up above the clouds fishing). Yes, away up above the clouds with their nets of silver and gold, fishing for stars. You recollect how the old moon sang a song and all the little stars were laughing; but Wynken, Blynken and Nod were bound to catch their fish, and they threw their nets into the sea and fished all through the dewy night. Now let us read all about it:

All night long, their nets they threw,
For the fish in the twinkling foam,
Then down from the sky came the wooden shoe,
Bringing the fishermen home;
'Twas all so pretty a sail, it seemed
As if it could not be;
And some folk thought 'twas a dream they'd dreamed,
Of sailing that beautiful sea;
But I shall name you the fishermen three,—
Wynken,
Blynken,
And Nod.

What a beautiful sea this must have been with the starlight twinkling in the foam. No wonder our little fishermen wanted to get some of these beautiful fish out of this mysterious sea. Do you think they tried very hard? What makes you think so? (fished all night long). Yes, and they threw their nets over into the foam and pulled it back time and time again; but never a fish was there; and so they fished and fished until it was getting near morning and they could not fish any longer. Why couldn't they fish any longer?—(all the stars disappear when morning comes). Yes, and they must hurry home. And the wind commenced to blow, and the clouds to scurry through the sky, and our three little fishermen in their wooden shoe came sailing down from the sky to their home again. (The teacher reads):

All night long their nets they threw
  For the fish in the twinkling foam
Then down from the sky came the wooden shoe
  Bringing the fishermen home.
'Twas all so pretty a sail, it seemed
  As if it could not be;
And some folks thought 'twas a dream they'd dreamed
  Of sailing that beautiful sea.
But I shall name you the fishermen three:—
Wynken,
Blynken,
And Nod.

And what did some folks think? (dream). What do you think? Why? (couldn't fish for stars and we couldn't very well sail off in a wooden shoe). Yes, and it's all so beautiful and so strange that it's just like a dream that a little child would dream when her mother puts her to sleep. Now, in our next lesson, we'll try to find out all about it. I'd like some little boys and girls to find out who these three strange fishermen are—Wynken, Blynken and Nod. I think mother could tell you. Who will ask her and tell me what she says to-morrow? The teacher now reads the stanza.

Lesson IV.

The teacher might commence this lesson by asking the children what their mother said about Wynken, Blynken and Nod, until she has thoroughly aroused the interest of the children again and then she might say, "And now, we'll see what the *poet* says about these three strange little fishermen." The teacher reads:

Wynken and Blynken are two little eyes
  And Nod is a little head,
And the wooden shoe that sailed the skies
  Is a wee one's trundle bed.

Now I think you know who these fishermen are. Who is Wynken? and Blynken? (two little eyes). Yes, two little eyes. And Nod? (a little head). And whom do you think they belong to? (a little child). Yes, a little child just going to sleep, her eyes winking and blinking, and her little head nod, nod, nodding as she goes to sleep. Who do you think is sitting there watching these two little eyes winking and blinking and that little head nod, nod, nodding? (mother). And the wooden shoe?—what is that? (the little one's bed). Now wouldn't *you* like to dream such beautiful dreams as this? Well, just listen to what the poet says:

So shut your eyes while mother sings
  Of wonderful sights that be,
And you shall see the beautiful things
  As you rock on the misty sea
Where the old shoe rocked the fishermen three:—
Wynken
Blynken,
And Nod.

Now, what are you to do? (shut your eyes). Yes, to close your eyes when you go to bed and think of beautiful things, and you, too, will dream just such lovely dreams as this wonderful and beautiful dream of Wynken, Blynken and Nod.

The teacher might read the entire stanza and ask for

1. The two lines that tell who Wynken, Blynken and Nod are.
2. The two lines that tell what the wooden shoe is.
3. What the poet says about how we should go to sleep.

The teacher might now read the entire poem.

THIRD YEAR.

The Tree—Bjornson.

What time of the year do the trees look most beautiful? (summer). Yes, because in the summer time the trees are in full bloom and the branches are covered with the fresh and green foliage of the early summer. And how do the trees look in winter? Yes, they are stripped of all their leaves and they look very bare and cold. But even in winter, the trees sometimes look very beautiful. Can you tell me when? Yes, when they are covered with snowflakes instead of leaves and when the frost decorates them with their sparkling crystals. So you see, at all times of the year, the trees are beautiful although they look quite different at each season. Now, when the frost and the snow and the cold days of winter have passed away, the spring comes, and the sun begins to warm up the earth again, and the grass begins to peep up through the brown earth and the trees show some signs of life. Now, what is the first thing we notice on the trees? (leaves). No, it's a little too early for leaves yet. What comes *before* the leaves? (buds). Yes, tiny little leaf buds begin to show themselves all over the branches of the trees. What do they look like? Yes, these buds are just like little swellings in the branches, and they don't look green at first. Can any one tell me what color they are? Yes, a brownish color, very much like the color of the branches, and they grow a little larger each day, until they are ready to open. And then, what color do they show? (green).

Now, this lesson to-day is a very interesting story about the tree, just about the time the buds are bursting open. Now, I'll read to you what it says (the teacher reads the entire poem and then goes back to the first stanza):

"The trees early leaf-buds were bursting their brown;
  'Shall I take them away?' said the Frost, sweeping down,
'No, leave them alone till the blossoms have grown,'
  Prayed the Tree, while he trembled from rootlet to crown."

You see the tree is quite alive now. It's beginning to feel how the weather is. And who is this that is speaking to the tree? Yes, King Frost, from away up in the icy north. You know he sometimes comes back for a short visit, even after the spring has returned and the birds have come back with their sweet and cheerful songs. And oh! how the tree shivers and fears the breath of King Frost. Why? (kill leaf-buds). Yes, and then the tree would have no blossoms and none of the beautiful leaves we love to see in the summer time. So what does the tree say?

"No, leave them alone till the blossoms have grown." And King Frost goes away and the buds burst open in the spring—and by and by, what appears? (blossoms).

"The tree bore its blossoms and all the birds sung." And all the trees were happy and the birds were flitting about from branch to branch, singing their sweet spring songs. And now *another* danger threatened the tree, because you know in the spring time the weather is very changeable. The teacher reads:

> "The Tree bore its blossoms and all the birds sung;
> 'Shall I take them away?' said the Wind as it swung,
> 'No, leave them alone till the berries have grown,'
> Said the Tree, while his leaflets quivering hung."

And now the tree grows very much afraid again. What was the cause *this* time? Ah, yes! the wind came sweeping along, and the tree was afraid of losing its delicate and beautiful blossoms. All the little leaflets were trembling and quivering at the very thought of this cruel wind sweeping away the blossoms. Well, did the wind do any damage? No, it left the blossoms on the tree and the tree was perfectly happy and was growing stronger and stronger every day, so that it wasn't afraid any more. And now the spring is over and we're right into summer. The teacher reads:

> "The Tree bore its fruit in the midsummer glow;
> Said the girl, 'May I gather thy berries now?'
> 'Yes, all thou canst see! take them; all are for thee,'
> Said the Tree, while he bent down his laden bough low."

How does the tree look now? (leaves, blossoms, fruit). Yes, the leaves have grown large and the tree looks beautiful and the branches are bent down with the weight of the great crop of fruit. And what happens now? Yes, the girl fills her baskets just as full as they can hold and takes away all the fruit that she can carry. Do you think there was plenty left after she got her baskets full? Oh yes, there were branches and branches just loaded with fruit all ready for *others* to come and take. What does *this* make you think of the tree? (kind). Yes, it was a very kind and generous tree. And don't you think it wanted to show how thankful it was for being spared from the blighting frost and the sweeping wind? Yes, this is always the way with the trees. If the frost and the wind spare them in the spring-time when their buds are young and delicate, they always give us an abundance of rich and delicious fruit.

The teacher might now read the entire poem.

Trees

BY ALICE R. NORTHRUP.

EVEN in a great city like New York, it is quite possible to become well acquainted with many of the trees, and the time spent in learning to know them will be time well spent and will bring in a harvest of lasting pleasure. By becoming acquainted with trees, I do not mean being simply able to label them, to know only the scientific details as the shape of the leaves, the kind of venation and so on. I mean to know the tree as an entity, as one knows one's friends. You must get at its individuality, and this you cannot learn from books or dried specimens, you must visit the tree in its home and get to know it at all seasons. Our tree friends are with us all the year round, and are always beautiful, whether veiled in the first misty green of early spring or in the luxuriant leafage of midsummer; whether as masses of reds and browns and russets in autumn, or when their leafless branches are silhouetted against winter skies.

If our eyes are open to the scientific details, if we know just what to look for, just where to detect differences, we shall "become acquainted" with our trees the more readily. The following are some of the points to notice; all have their share in determining the character of the tree: First, observe its general form, whether spreading as in the white oak, drooping as in the weeping willow, irregular as in the catalpa or symmetrical and rounded as in the horse-chestnut. The general form largely depends on the branches, whether they begin close to the ground, or far up the trunk; whether they are numerous or few and scattered; what angle they make with the trunk and finally on the branchlets, whether they make a fine spray as in the black birch and elm, or whether they are stiff and coarse as in the horse-chestnut and ailanthus. Then the appearance and color of the bark is often very characteristic as the smooth light bark of the beech, the flaky, shaggy bark of the shag-bark hickory, the broad longitudinal ridges of the chestnut. The branchlets also are often characteristically colored as the green of the sassafras, the polished brown of the black birch. Next, notice the leaves, how they are arranged on the branch, and how beautifully the leaf shape and the arrangements are correlated so as to give the greatest amount of surface to the air and sunshine. Observe their general shape, where they are the broadest, shape of the base and apex, what sort of edges they have, then notice carefully the framework (the venation) and finally the surface, both upper and lower. If the tree is in flower, notice where the flowers come, whether they are perfect (that is, contain stamens and pistils) as in the horse-chestnut, or whether, if the stamens and pistils are separated (imperfect), you can find both on one tree (monœcius) as in the oaks and hickories, or whether they are on different trees (diœcius) as in the willow and poplar; see if you can find out how the pollen from the stamens reaches the pistils. If it is possible to get the fruit, trace its relation to the flower, look for the seeds and see if you can decide how they are dispersed.

Winter is the time to study the buds and the mode of branching. A careful study of the buds will reveal many of Nature's pretty secrets; how she packed all the next year's leaves and flowers away the summer before, the consummate skill with which they are doubled and folded and plaited, and what provision she made for their protection during the long winter months. All you have to do is to keep a bunch of twigs in water in the classroom and watch the marvelous unfolding. The end of January or the early part of February is the best time to collect them and willow, elm, maple, horse-chestnut, alder, hickory, beech, tulip-tree, dogwood and birch are among the most satisfactory. From the leaf-scars and bud-scars, too, to be seen on most of the twigs, the history of the leaves and buds that made them can be largely reconstructed. If it is possible, let the children make all the discoveries without a word from you, the miracle of the spring will then make a much stronger impression. The facts of nature that they are going to assimilate will not be so much what they are taught as what they come into contact with and learn unconsciously as the country boy does. It would be well to take some one tree, if you are so fortunate as to have one anywhere near the school and interest the children to watch it, day after day; you will soon feel a sort of proprietary interest in it, and will readily personify it and look upon it as a friend. If the children cannot study the tree personally, the teacher will have to become the tree lover and bring to the little ones all she can, both in the way of specimens and in appreciation of what trees are to us, of their manifold beauties and the many claims they have upon our interest and our affection. Work with the trees will be greatly facilitated for the teacher because many of the trees of both Central Park and Bronx Park are labelled, and because of the magnificent Jessup collection of woods at the Museum of Natural History.

In the following pages are brief descriptions of the trees most frequently met with in our parks and in the woods within the city limits. It is hoped that it will make their identification comparatively simple, and will add to the growing number of "tree lovers."

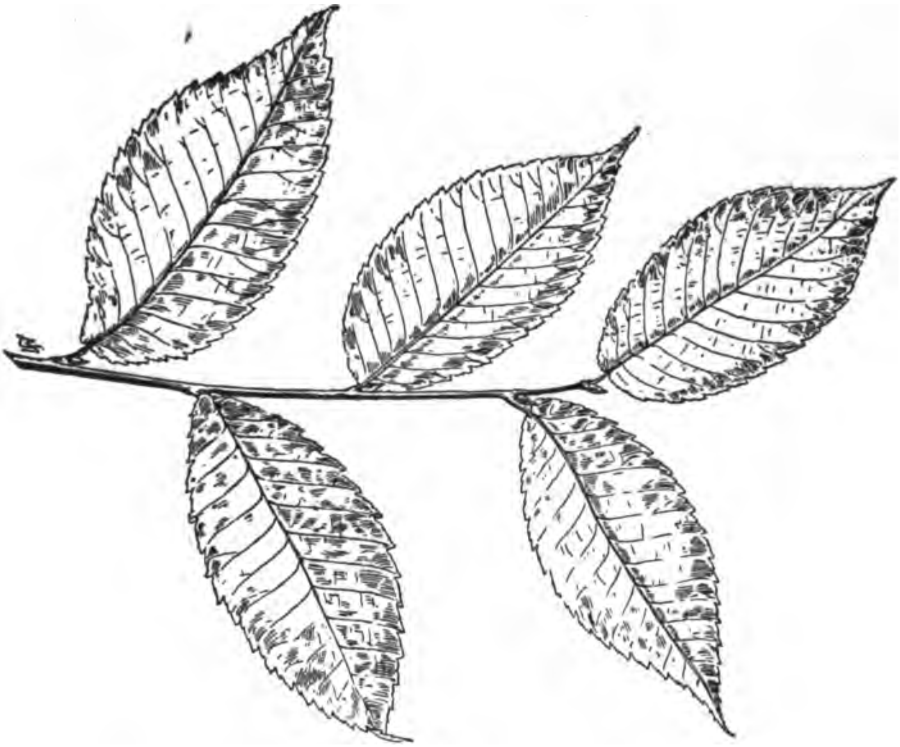
Common Trees of New York City and Vicinity.

THOSE WITH SIMPLE, FEATHER-VEINED LEAVES.

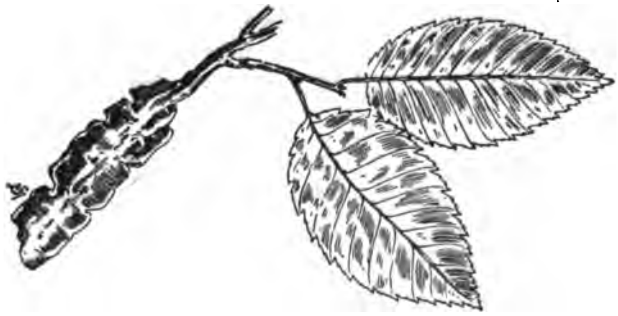
Tulip Tree. (Liriodendron Tulipifera.) Magnolia Family.

This is one of our noblest trees, is very tall with a straight trunk usually branching at a great distance from the ground. The bark is brown with close furrows. The leaves are alternate of a peculiar shape, looking as if a piece had been cut out of the top. The flowers are large and showy, appearing in June; and resemble yellowish-green tulips with large orange spots at the base of the cup. The fruit is a sort of elongated erect cone, made up of many scale-like fruits around a slender axis. These are very conspicuous after the leaves have fallen, but toward spring the cones break up and the little winged fruits scatter in all directions.

The buds are large and flattened, the outer scales being often purplish; within, the little leaves are folded at the midrib and then bent over again from the top and are sheathed by successive pairs of scales. The tulip-tree is almost the first to leaf out in the spring, and the young foliage is of the most vivid green; in the fall, it turns a clear, golden yellow.



SLIPPERY ELM.



WHITE ELM.

Linden, Basswood, Lime. (Tilia Americana.) Linden Family.

A tall, irregularly branching tree with dark-brown roughish bark. The inner bark is very tough and fibrous. The leaves are large, broadly heart-shaped and one-sided at the base. The cream-colored, fragrant flowers come in June, growing in clusters out of the center of a pale-green, leaf-like scale. The fruit is small, hard and round, growing in clusters from the same bract. The foliage turns yellow in the autumn. The buds are small, roundish and red.

Flowering Dogwood. (Cornus floridal.) Dogwood Family.

A low, round-topped tree with spreading branches, and rough, gray bark. The flowers come before the leaves, and in May it is a mass of white bloom, the most striking feature of the woods. Each so-called flower is in reality a cluster of small yellowish flowers, surrounded by four large, white, petal-like scales or bracts. The tree is almost as showy in the fall, when clusters of scarlet-pointed berries take the place of the flowers, and the leaves take on their autumnal tints of rich dark reds.

The flower buds are gray and rounded, like little stools; the leaf buds are smaller and pointed.

Wild Black Cherry. (Prunus serotina.) Rose Family.

A tall, straggly, usually slender tree with rather thin foliage. The bark of the trunk is round and rough, that of the branches reddish and shining. The leaves are alternate, thickish and shining. The tree is very pretty in June, when it is thickly hung with the long, drooping clusters of white flowers. Later these are replaced by the small, purplish, black, bitter fruit.

The foliage turns reddish or orange in the fall.

The tree is common along fences and on the borders of woods. It is a favorite of the tent-caterpillar. The birds are very fond of the fruit.

Sassafras. (Sassafras officinale.) Laurel Family.

A medium sized, irregularly growing tree, with ascending branches. Bark of the trunk is brown and rough, that of the twigs a shining yellowish-green. Bark, leaves and roots aromatic. The leaves are alternate, rather thick, and vary in shape; some are entire and regular, others mitten-shaped, with one lobe, others with two lobes. This is the only tree, except the mulberry, that has leaves of such varied shapes, The yellowish, clustered flowers come in May, a little before the leaves. The fruit is small, oval and bluish on red stems. The buds are large, blunt and terminal, and are protected by scales.

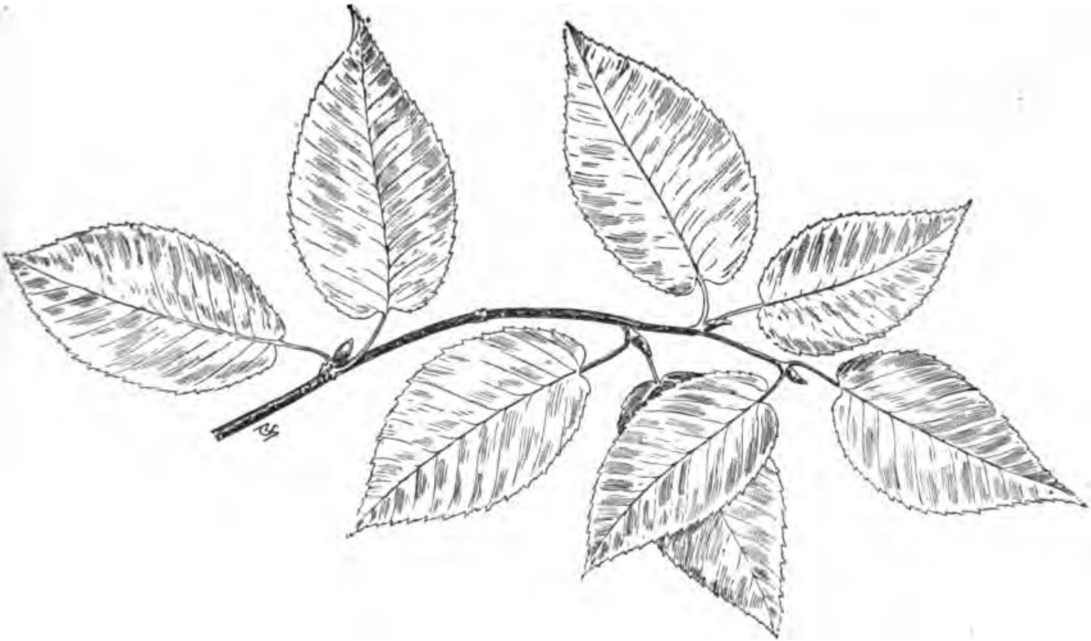
American Elm. White Elm. (Ulmus Americana.) The Nettle Family.

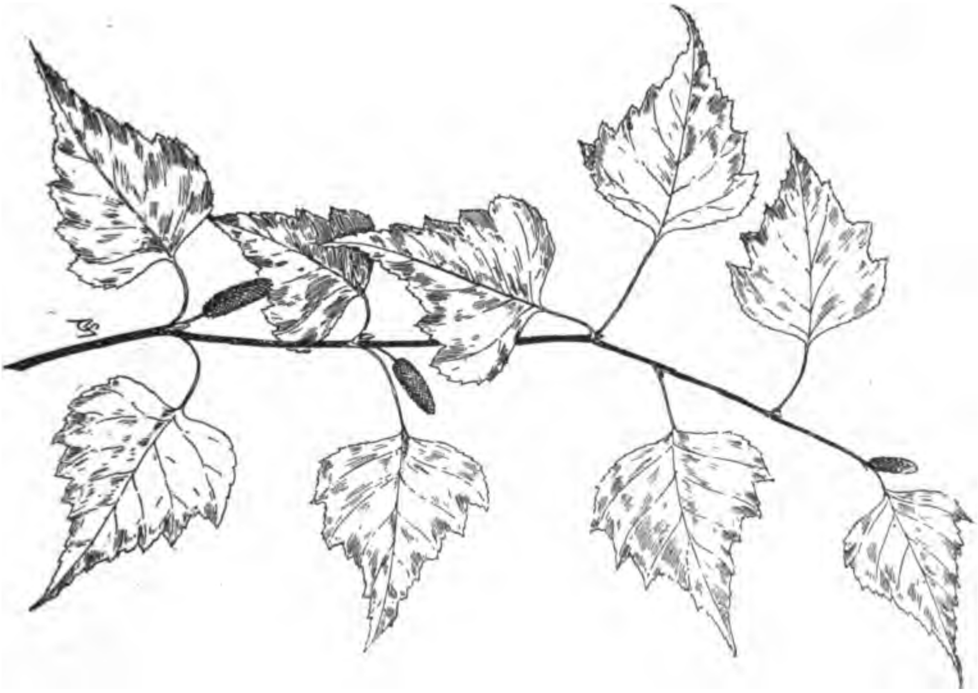
This is commonly considered our most beautiful tree. In the typical form, the trunk divides into a number of equal sized branches, which curve upwards and outwards like a vase, and support the arching dome of foliage with its fringe of drooping branches. The bark is brown and furrowed. The leaves are small, unequal at the base, and straight-veined. The clusters of small, brownish flowers come in March, before the leaves, and are succeeded by the little flat, winged fruits on slender, drooping stems. The foliage turns yellow in the fall. The buds are alternate, brown, blunt and scaly. The elm is common in cultivation. There is a double row on Fifth avenue, along Central Park, and in the Mall.

The *Slippery Elm* or *Red Elm* (Ulmus fulva) is also quite common about New York. It is a much smaller tree, with larger leaves, which are very coarse and rough, especially above. The inner bark is mucilaginous.

Black Birch. Sweet Birch. (Betula lenta.) Oak Family.

A tall, graceful tree, with rather drooping branches and a delicate spray. The bark is smooth and gray when young; when old, darker and flaky. The twigs are a shining reddish-brown, with white dots. The inner bark is sweet and aromatic. The leaves are alternate, thin and straight-veined. The birch is at its loveliest early in May, when the silky leaves are just unfolding and it is thickly hung with yellow staminate catkins, like a golden fringe. The pis-


BLACK BIRCH.


WHITE BIRCH.

tillate catkins are small and inconspicuous, and later develop into the catkin-like fruit with its many tiny-winged nutlets. The leaves turn a deep rich yellow in the fall. The leaf buds are long and pointed, though not as long as the beech; the staminate catkins, with their tightly closed brown scales, hang on the tree all winter, waiting for the spring.

White Birch. Gray Birch. (Betula populifolia.) Oak Family.

A slender, graceful tree, much smaller than the Black Birch, with a silvery white bark. It is seldom perfectly erect, branches close to the ground, and usually grows in clumps. The bark does not readily separate in layers as the northern Paper Birch does; the branches are brown, with whitish dots. The leaves are thin and shining, and are on comparatively long, slender leaf stalks, so that they tremble and dance in the slightest breeze. The flowers are much as in the Black Birch, but the catkins are smaller and scattered.

No other tree has the lightness and airiness of this graceful birch, and it is well called "The Lady of the Woods." It is common in sandy soil.

THE OAKS.

There are many kinds of oaks, seventeen of which grow within a radius of a hundred miles of this city. Almost all are trees of large size and slow growth. The characteristic oak leaf is deeply, pinnately lobed, with the lobes either rounded, as in the white oaks, or sharp and ending in bristly points, as in the red oaks. About the middle of May, when there is already a misty vail of foliage on most of the other trees, the oaks put forth their exquisitely tinted, velvety leaves. In the white oak these are a silvery green, in the others various shades of pink and red. When fully expanded they are green, and then in late October and November, after the splendor of the maples and sweet gums has passed, the oaks stand out as great masses of russet, bronze or purplish red, sometimes almost scarlet. As the leaves are among the latest to come in the spring, so they are the last to go in the fall, and in some cases they even cling to the branches all winter. The buds are small. The flowers of the oaks come with the leaves, the staminate catkins forming delicate brown or yellowish fringes, while the pistillate are very small and erect, and later mature into the acorn. In the red oaks it takes two years for the acorns to fully develop, in the white oaks only one.

The following are among the commonest species about the city:

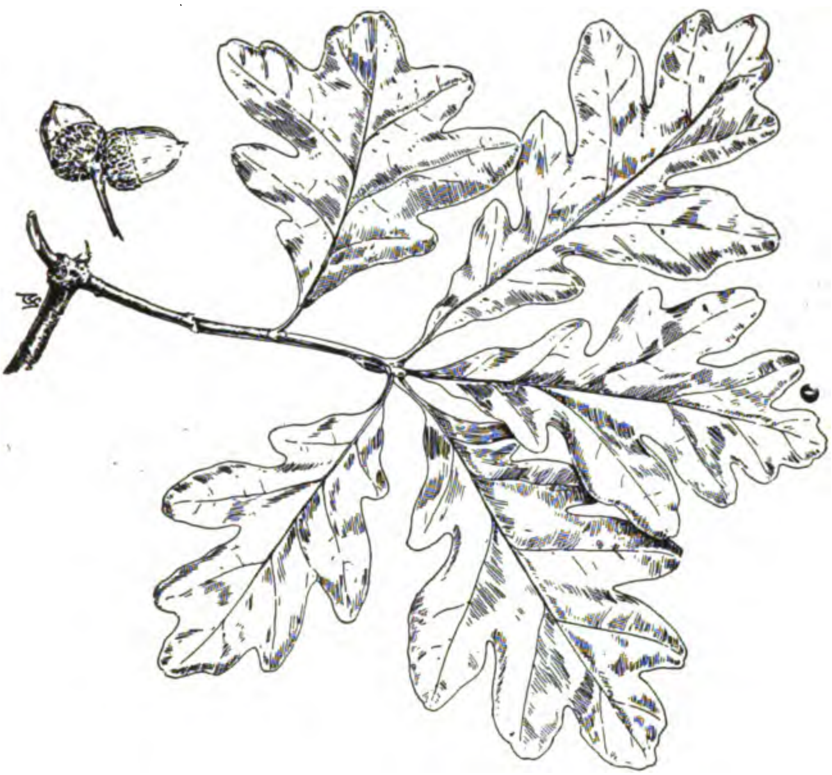
Red Oak Group. Red Oak. (Quercus rubra.) Leaves cut into eight to twelve sharply toothed lobes, dull green above; acorn large, with a flattened saucer-shaped cup.

Scarlet Oak. (Quercus coccinea.) Leaves bright green, shining above, deeply cut, with smaller acorns in a top-shaped cup.

Swamp or *Pin Oak.* (Quercus palustris.) Leaves very deeply cut, sometimes almost to the midrib, shining above; acorn small and rounded in a shallow, saucer-shaped cup.

White Oak Group. White Oak. (Quercus alba.) This is easily recognized by its great, wide-spreading, irregular branches, the ashen-gray, scaly bark; the leaves paler beneath, with rounded lobes, and the small acorns, with a shallow, rough, warty cup.

Chestnut Oak. (Quercus Prinus.) A smaller tree, with longer leaves, somewhat resembling those of the chestnut in shape, but with broad, rounded teeth on margin.



WHITE OAK.

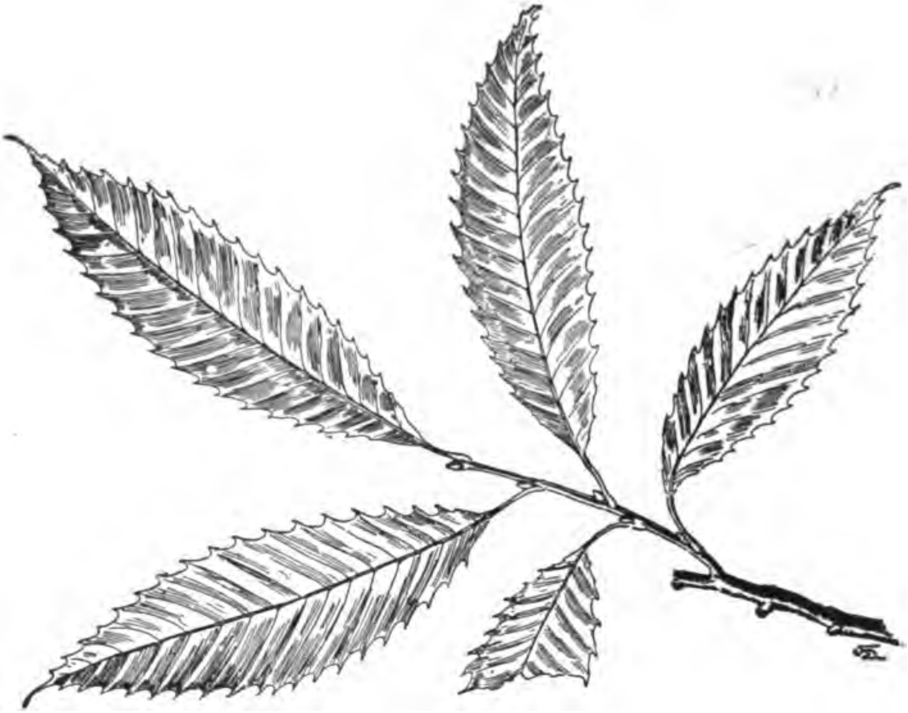
Various gall-flies lay their eggs in the young stems or leaves of the oaks, thus causing the "oak gall," of which there are a number of kinds, a hard, woody one, a large, round, yellowish one with the inside spongy, etc.

Chestnut. (Castanea vesca var. Americana.) Oak Family.

A large, rugged, irregularly growing tree, with the bark having a striped appearance, owing to the longitudinal plates. It is often spreading, like an oak. The leaves are long and quite narrow, with sharp, bristle-pointed teeth, pointing forwards. It is most beautiful late in June or early in July, when the long, cream-white staminate catkins appear in profusion among the dark-green leaves. The pistillate flowers are smaller, but long after the white catkins have fallen they mature into the pale-green spiny involucres, within which, cushioned in the softest silk, are the one to four glossy, dark-brown, sweet nuts. The foliage turns a warm brown in the fall. The buds are small and the tree leaves out late.

Of the common fruit trees, the *Cherry* is a medium-sized tree and blossoms first. It has pure white flowers, with their papery petals in clusters coming with the leaves, the last of April or early part of May. The *Peach*, a small, low tree, has showy, pale pink flowers without stems, and blossoms at about the same time or a day or two later than the cherry. One variety has flowers with very small reddish petals, scarcely longer than the calyx.

The *Pear* comes into bloom next, and is usually a small, slender tree, with rather compact clusters of yellowish-white flowers, with reddish-brown stamens. The petals are thicker than in the cherry, and the flowers have a peculiar, rather disagreeable odor.



CHESTNUT.

The *Apple* blossoms last, about the middle of May, and is a low, rounded, but with spreading, irregular branches. The flowers are pink and white, sweet scented, in clusters, coming at the same time as the grayish-green leaves.

Beech. (Fagus ferruginea.) Oak Family.

One of our most beautiful trees, with a smooth, light-gray bark. It is low branching, and has a light, horizontal spray. The leaves are thin, straight-veined, and somewhat resemble chestnut leaves, but are shorter, with much smaller teeth. The flowers are inconspicuous and come with the leaves. The fruit is a small, bristly, brown burr, containing two three-cornered, sweet-kerneled nuts. The foliage turns a pale yellow in the fall, and the whitened leaves sometimes remain on the trees all winter. The buds are characteristic, being very long, slender and pointed. The plaited, silky leaves develop rather late.

Willows. The Willow Family.

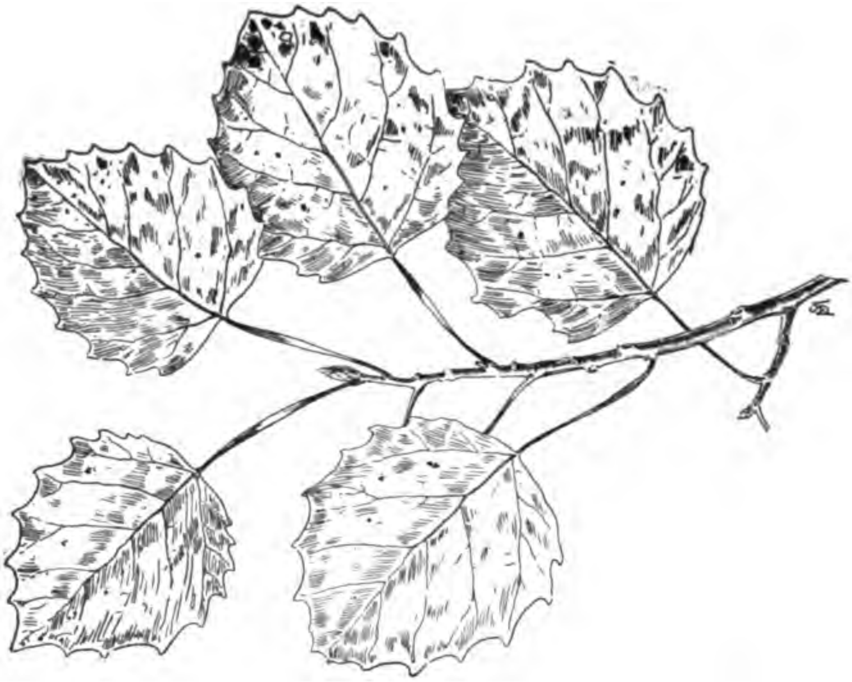
As in the oaks, there are many species, nineteen growing within a radius of 100 miles of the city. They closely resemble each other, and are difficult to determine specifically. Our native species are almost all tall shrubs, only one attaining the dignity of a small tree. They are all rapid growers, take root readily from slips, and are seldom found except in damp places. The typical willow leaf is long and narrow. The flowers are in catkins, but the staminate and pistillate, instead of being found on the same tree as in the Oak Family (monœcious), grow on separate trees (diœcious). Cross fertilization of necessity takes place, and the pollen is carried either by bees or the wind.

In the "pussie willows" (those with the silvery catkins), the flowers come early in March, long before the leaves. Indeed, the little silvery pussies can be seen peeping out from beneath the brown scales any time during the winter if there has been a warm spell of a week or two. At first the staminate and pistillate catkins cannot be distinguished, but early in April some will be seen covered with the small, yellow anthers, while others will show little green flask-shaped bodies (the pistils), crowned with two flat stigmas. Later still, the staminate catkins will all fall off and the pistillate become larger, the separate fruits split open and the tiny seeds with a tuft of silky down serving as wings, float away.

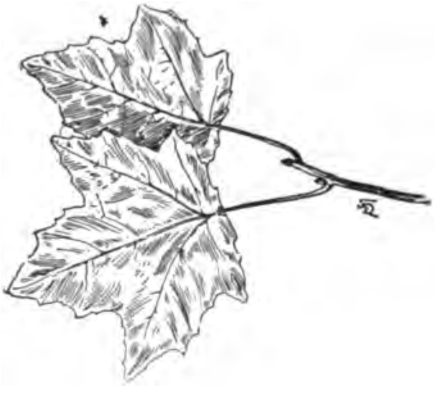
The willows that are not "pussy willows," that is, that do not have the silvery, downy catkins, have more slender greenish or yellowish ones that develop in May with the leaves. Several foreign species have been long cultivated, and are naturalized in many places. Among them is the familiar Weeping Willow (*Salix Babylonica*), with its slender, pendulous branches, narrow leaves, developing very early, and small great catkins. All the trees in this country are pistillate, it is said.

The Poplars. Willow Family.

The poplars are closely related to the willows, and, like them, have the staminate and pistillate catkins in separate trees (diœcious). The poplars are all trees, and, like the willows, are very rapid growers. They have a smooth, greenish-gray bark, at least, on the branches. The buds are brown, scaly and resinous. The poplar catkins are grayish, long and drooping, longer and more loosely flowered than the willows. The little fruit pods are ripe in May, and the seeds, increased in down, fly about, giving to some species the name of "Cottonwood." The leaves are more or less ovoid in shape, and in most species are borne on long leafstalks, which are flattened at right angles to the blade; this makes them flutter in the slightest breath of air. This is most marked in the two species known as aspens, one of which, the Large-Toothed Aspen (Populus grandidentata), is quite common about New York. It is a medium-sized tree, with smooth green-gray bark when young, rather large-toothed leaves and thin foliage. When young, the new leaves have an exquisitely silvery look, owing to the silky white wool with which they are densely covered. Several species are quite common in cultivation, among them the *White* or *Silver Poplar* (Populus alba) from Europe.



LARGE-TOOTHED ASPEN.



WHITE POPLAR.

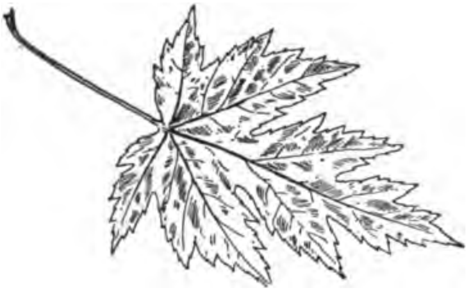
This is a large tree easily recognized by the toothed, often lobed leaves being dark green above and densely white woolly beneath. There is one in Madison Square, on the west side near 23d street.

TREES WITH SIMPLE PALMATELY-VEINED LEAVES.

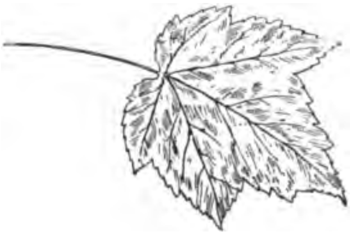
The Maples. The maples are among our most familiar and attractive trees. They all have opposite lobed leaves with the veins all starting from the base of the leaf (palmate venation) and curious two-winged fruits.

The most common native species within our limit is the Red Maple or Swamp Maple (Acer rubrum L.). It grows in damp places and is quite a large tree with spreading branches, dark scaly bark on the trunk, the branches gray and smooth and the twigs reddish. The leaves are smaller than in the other species, are pale beneath and are three or five lobed. The flowers come long before the leaves and late in March or early in April, the Red Maple "crimsons to a coral reef," the bare branches being thickly clothed with the clusters of small red flowers. These are usually diœcious and the staminate and pistillate trees can generally be distinguished by the difference in color; the staminate tree being a deep crimson, while the staminate is lighter with a yellowish tinge owing to the clusters of yellow stamens. The young fruits with their twin reddish wings and long red stems are almost as ornamental as the flowers. As the red blossoms are among the first signs of spring, so the crimsoning leaves are the first sign of autumn, and in late September or the first of October the tree is a blaze of color. The buds are easily recognized, as they are reddish and grow in clusters.

The handsomest of the maples is the *Rock Maple* or *Sugar Maple* (Acer saccharinum Wang). This is the State Tree, and, although uncommon here, is very plentiful in other parts of the State, and is common here in cultivation. It is a large, handsome, symmetrical tree, with dense foliage. The leaves are dark green, coarsely toothed with rounded notches. The greenish-yellow flowers come with the leaves and grow in drooping clusters. The foliage shows a great range of color in the fall, from clear straw color through gold and orange to crimson.



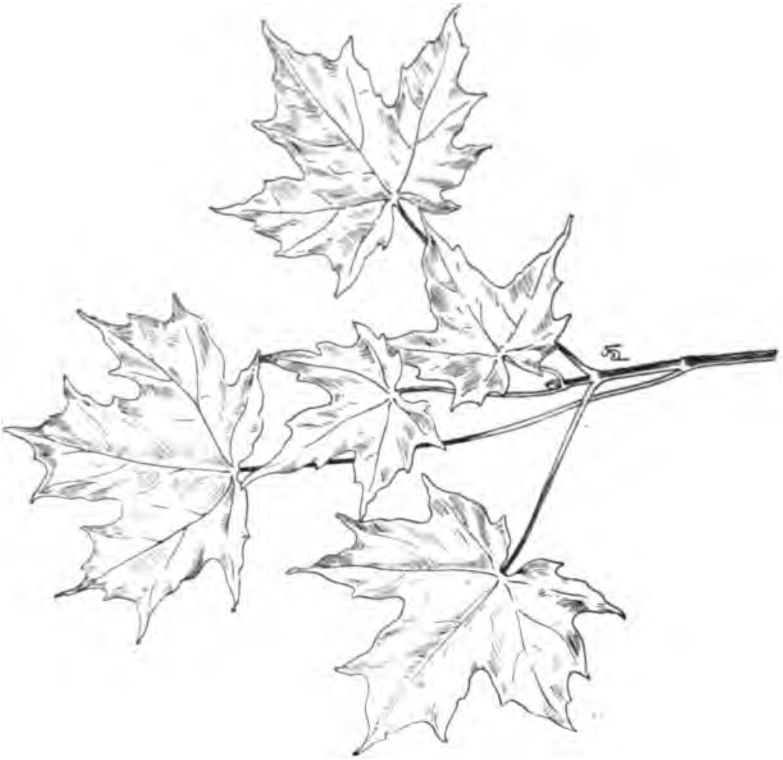
RED MAPLE.



CUT LEAF SILVER MAPLE.

The *Silver* or *White Maple* (Acer dasycarpum Ehrh) grows along river banks in some parts of the State, and is very common here in cultivation. It is a larger, more graceful tree than the Red Maple, and has large, drooping branches, somewhat suggestive of an elm. The leaves are larger, more deeply cut and distinctly silver-white beneath. It flowers in March, about a week before the Red Maple. The flowers are not as conspicuous, being greenish-yellow, and the wings of the fruit are larger. The foliage is a pale yellow in the fall.

One of the most commonly planted European maples is the *Norway Maple* (Acer platanoides). It is a much smaller tree than the Sugar Maple, and has a close, finely reticulated bark, but the leaves are quite similar in shape, although distinguished by a milky juice. The flowers are large and



SUGAR MAPLE.

green, not as drooping as the Sugar Maple; the fruit is large and the wings diverge in a straight line.

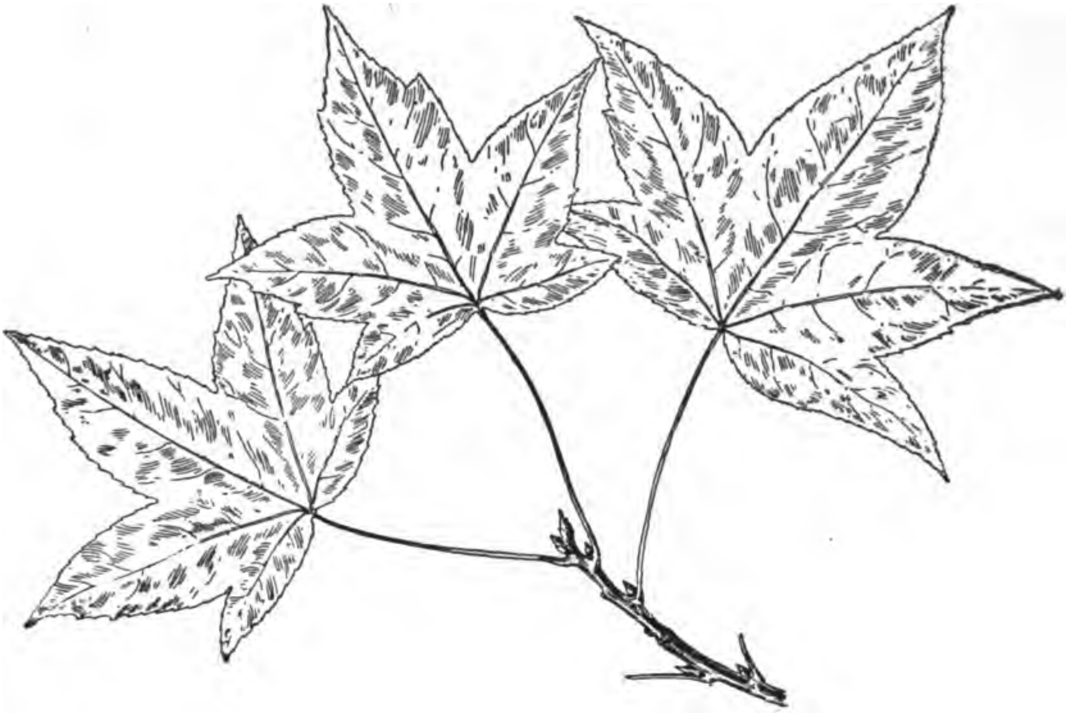
Sweet Gum. (Liquidambar styraciflua.) Witch-hazel Family.

A low-branching, medium-sized, rather symmetrical tree, the branches mostly spreading. The trunk is brown and rough, the branches gray. The branchlets usually develop wing-like, corky ridges that give the tree a curious dead appearance. The leaves are very beautiful, star-shaped, with 5-7 long pointed lobes. When crushed they have a peculiar spicy odor. The flowers are small and grow in small, greenish heads. The pistillate mature into a long-stemmed, brown ball, bristling with many pointed beaks, which later open and let fall the seeds. The foliage turns very brilliantly in October, from yellow and red to the deepest purplish brown.

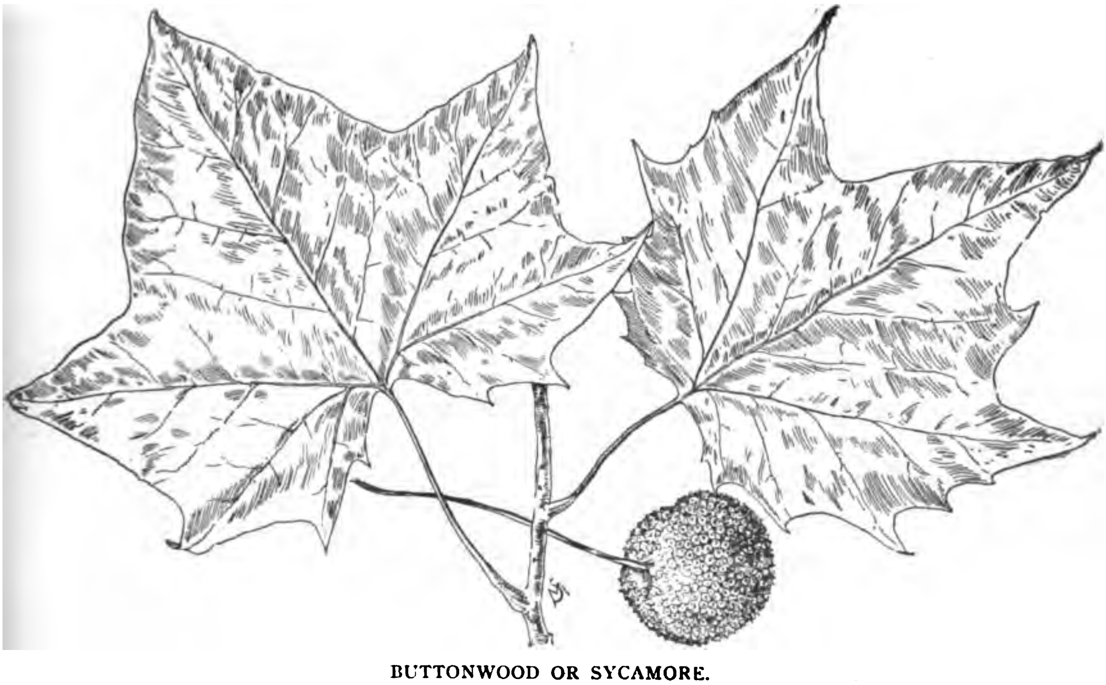
The thirteen trees planted by Alexander Hamilton at Hamilton Grange, for the thirteen States, were Sweet Gums. There is a grove of them at 161st street and Morris avenue.

Buttonball, Plane Tree. Sycamore. (Platanus occidentalis.) Plane-tree Family.

A tall, rugged tree found along streams or in wet woods. It usually branches irregularly, and when old the branchlets often grow in a sort of upright tufts from the ends of the branches. The tree can be immediately



SWEET GUM.



BUTTONWOOD OR SYCAMORE.

recognized by the curious mottled appearance of its trunk, due to the fact that the outer bark scales off in large pieces, showing the white or grayish inner bark. The leaves are large and broad, shaped something like a grape leaf. The flowers are small monœcious, coming with the downy, yellowish leaves in May. The pistillate make a pretty little crimson ball which in the fall becomes the round buttonball which hangs by its long, tough stem all winter, swinging on the leafless boughs. No leaf buds are discernible on the tree until the leaves fall, when it seems that they have been entirely hidden in the hollow, swelling base of the leaf-stalk.

The Buttonball grows to be the largest tree of the Eastern United States.

TREES WITH COMPOUND LEAVES.

White Ash. (Fraxinus Americana.) Olive Family.

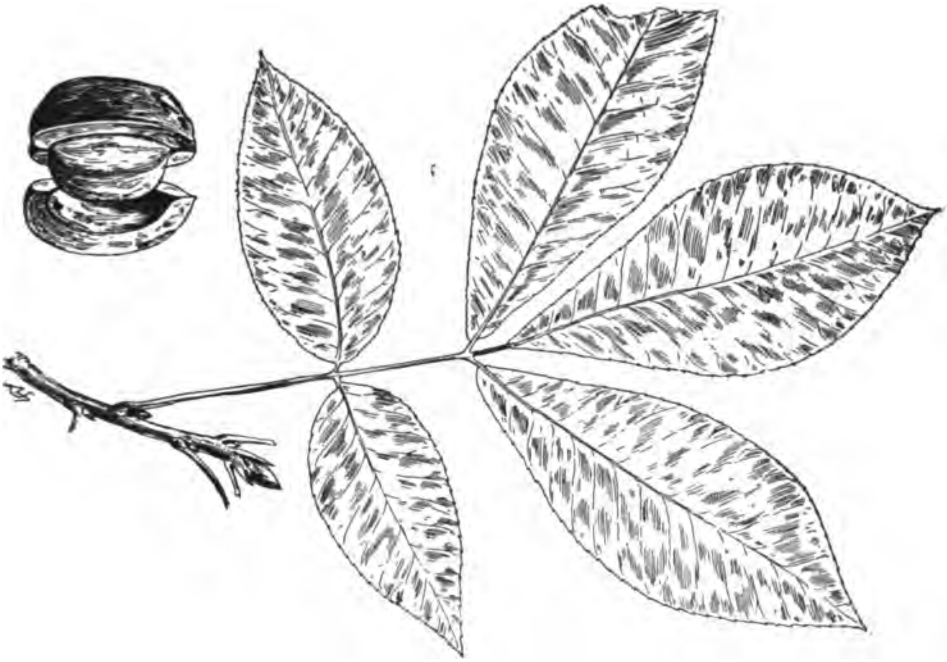
A large, symmetrical forest tree with a characteristic gray bark which looks as if cut up in small pieces by intersecting furrows. The leaves are opposite and compound, each leaf being composed of from five to nine long, taper-pointed leaflets. The flowers are diœcious and come in May, little before the leaves. The staminate grow in purplish-brown clusters and look like dark excrescences near the end of the branches. The pistillates are also purplish, but more slender. The winged fruits grow in drooping clusters and frequently remain on the tree the greater part of the winter. Each little key or samara is slender and shaped like a paddle with a broad blade. The leaves come very late in the spring and early in the fall, they take on a peculiarly purple or purplish-brown tint, found in no other tree. The buds are small and rusty-colored.

Butternut. White Walnut. (Juglans cincerea.) Walnut Family.

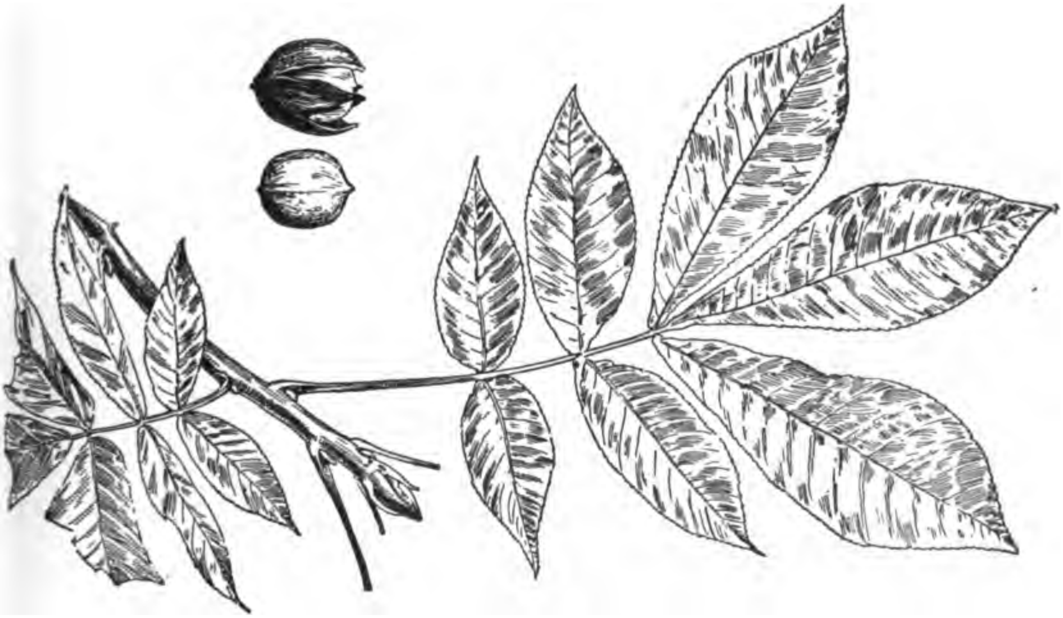
The butternut is a medium-sized, rather straggly tree with somewhat scanty foliage. The bark is gray, and when the tree is young has a striped look. The leaves are alternate, compound with from 9-17 leaflets which are downy beneath. The base of the leaf stem is swollen and horseshoe-shaped and is covered with fuzzy, sticky hairs, at least when young. The flowers are monœcious and come with the leaves in early May. The staminate are thick, green and drooping and usually grow singly; the pistillate are small, erect at the end of the shoots and develop into an oblong fruit. This is 2/3 of an inch long, is at first downy, green and sticky, later this husk turns brownish-black, but still adheres closely to the hard, brown, deeply-sculptured nut within. The husk, when crushed, makes a deep yellow stain. The leaves turn yellow in the fall, but drop at the first frost. The buds are long, yellowish, and have no protecting scales.

The Hickories.. The Walnut Family.

The hickories, like their relatives, the walnuts, have alternate compound leaves and monœcious flowers. The staminate are in drooping catkins, and the fruit is a nut with a husk or shell. In the hickories, unlike the walnuts, this separates at maturity into four parts or valves. The most easily identi-



SHACBARK HICKORY.



PIG-NUT.

fied is the Shag-bark or Shell-bark Hickory (Carya alba). This is a large, handsome, although irregularly growing tree, with the shag-bark hanging in loose flakes. The wood is very strong and tough. The leaves have five leaflets, the lower pair being considerably smaller than the upper. The drooping brownish catkins come with the leaves about the middle of May. The fruit is ripe in October, is nearly round, and has a thick enveloping husk, soon splitting into four parts. The nut within is white, rather thin-shelled, and has a large, sweet kernel. The foliage turns a deep, golden yellow. The buds are very large and terminal, and are protected by silky, pale-brown scales. In early May when these begin to unfold they are as beautiful as any flower, the cluster of downy leaves rising out of the reflexed, silky scales, which are exquisitely tinted within, from pale pink to almost purple.

The Pig-Nut (Carya porcina) is a tall tree with smaller leaves, a close bark, and small, pear-shaped nuts with thin husks that do not split readily; a very hard shell and a bitter kernel. The Bitter-Nut, or Swamp Hickory (C. amara), has longer leaves, with seven to eleven leaflets, and a small fruit (about an inch long), with both husk and shell thinner than in any of the other species. The kernel is bitter.

The Conifers. (Cone-bearing trees, mostly evergreens.)

Winter is the time to study the evergreens, when they are the most prominent feature of the landscape. The cone-bearing trees differ in many respects from the other trees we have described. They have a spire-like shape, caused by the main trunk being almost always a straight, unbroken shaft; the leaves are needle-like, or scale-shaped; the flowers are monœcious, in catkins, but the greatest difference is in the pistillate flower, if flower it can be called. It consists of a flat scale bearing the naked ovule (immature seed) at the base, instead of the ovule being inclosed in an ovary, as in all the other trees. Clusters of these scales make the cone. The evergreens lose their leaves at regular intervals as well as the "deciduous trees," but some keep them two years, as in the pines; others, as the spruces, four or five, and the new leaves develop before the old leaves fall, so that the trees always wear their green mantles. The Larch is an exception, and loses its tassels of soft green needles when the broad-leaved trees do, in the fall.

The *Pines* may always be known by the long, needle-like leaves growing in clusters from sheathing scales at the base. Of these the *White Pine* (Pinus Strobus L.) is the largest and handsomest. It has slender needles, three-fourths of an inch long, in clusters of fives, and long, narrow, slightly curved cones with rather thin, unarmed scales. It is found here and there in the woods, and is often cultivated.

Pitch Pine (Pinus rigida) has a rough appearance, with rather scraggly branches and a dark, scaly bark. The leaves are long and rigid (three-fifths of an inch), and the cones are ovate, with the scales thickened at the apex and armed with stout, recurved prickles. This species forms most of the "pine barrens" of Long Island and New Jersey.

The *Hemlock* (Tsuga Canadensis) is one of the most beautiful of our evergreens. It is tall and stately, with a straight trunk, dark and furrowed bark and close branches. The graceful drooping of the spreading branches, and the flat, dark-green needles growing in a flat spray, give the tree a feathery appearance that is found in no other evergreen. When the boughs are swaying in the wind the silvery underside of the leaves show and give it added beauty. The tiny cones droop from the ends of the branches. There are very fine specimens of the Hemlock in the ravine at Bronx Park.

AILANTUS.

The *Red Cedar,* or *Savin* (Juniperus Virginiana), is a tree which is easily identified by its shape, which is spire-like when young and pyramidal when old, its rather yellowish-green foliage and its bark coming off in long shreds. The leaves are very tiny; awl-shaped, and rather spreading in the young trees; flattened and scale-like leaves in the older. The flowers are very small, and the staminate and pistillate are found on different trees; the latter form, when mature, the characteristic gray-blue berries. This apparent berry is in reality a small cone with the scales having become fleshy and growing together about the seeds. The wood and the foliage are both aromatic. There is a large grove of these cedars on the east bank of the Harlem, between 150th and 160th streets.

Among the conifers common in cultivation are the following:

The *Norway Spruce* (Picea excelsa) from Europe. This is very often planted, and is a tall, handsome, symmetrical tree, with dark green needles, not in clusters as in the pines, but scattered on all sides of the branchlets. The cones are large, reddish brown and drooping.

The *Balsam Fir* (Abies balsamea) is native farther north. It is familiar to all as the "Christmas Tree," and may be known by the flat, blunt needles, paler beneath, and very fragrant in drying. The native Spruce, with short, sharp-pointed leaves, jointed to small projections at the base, is also quite often used as a "Christmas Tree."

COMMON CULTIVATED TREES NOT INCLUDED IN THE ABOVE LIST.

THOSE WITH SIMPLE LEAVES.

Catalpa, or *Indian-Bean Tree.* (Catalpa bignonioides.) Bignonia Family (to which Trumpet-creeper belongs).

The Catalpa is a low, irregular tree with wide-spreading, coarse branches. The leaves are opposite, large and heart-shaped, and the flowers come in upright clusters in June. They are large and white, with yellow and purple spots. The fruit is its most characteristic feature, and is a long, narrow, pointed bean, which hangs on the tree all winter. It is filled with numerous winged seeds. The children call the fruit "smoking beans."

THOSE WITH COMPOUND LEAVES.

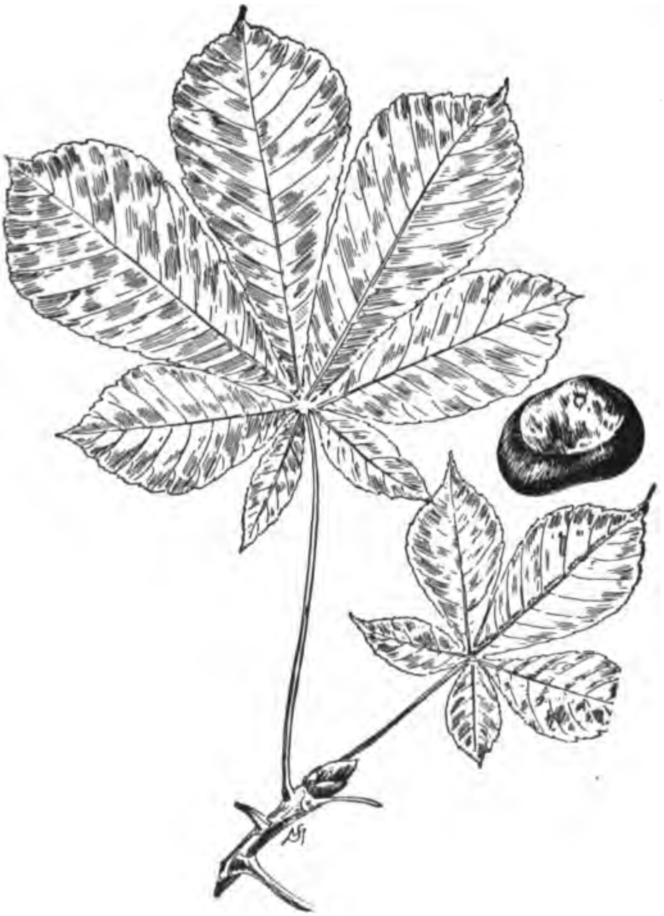
The *Locust.* (Robina Pseudacacia.) The Pulse, or Bean Family.

This tree grows wild, west and south of us, and is common here in cultivation, also naturalized in many places. It is a slender tree with rough, furrowed bark, and light, graceful foliage. The leaves are made up from nine to nineteen oblong leaflets.

The *Ailanthus,* or Tree of Heaven (Ailanthus glandulosus D.), from China, is common in the city, and has become naturalized in many places. It seems to thrive better in cities than any other tree. It grows very rapidly, has a warty, lightish bark and irregular branches. The foliage is graceful and has rather a tropical appearance, with the great, compound leaves, often three feet or more in length, with from twenty to forty sharp-pointed leaflets. The flowers are diœcious, and the staminate have a very disagreeable odor. The pistillate develop into clusters of winged fruits, having the seed in the center of the wing. These are often pink or reddish, and very showy.

The *Horse-Chestnut* (Aesculus Hippocastanum) is a native of Asia. It is a medium-sized, rounded, symmetrical tree with large, palmately compound leaves of seven (sometimes five) leaflets. Late in May it is covered with the large pyramidal clusters of cream-white flowers, giving the tree the appearance of a huge chandelier with all its candles lighted. The fruit is large and rounded, the green husk is covered with prickles, and within is one (sometimes two or three) large, brown, shining nuts, which are hard and inedible. The buds are very large, scaly, brown and resinous.

There is a fine group of Horse-Chestnuts on the Plaza at 59th street.



HORSE CHESTNUT.

All of the illustrations in this article are taken from "Familiar Trees and Their Leaves," published by D. Appleton & Co., New York.

Typical Examples in Arithmetic, 4A Grade

(Continued from October Monograph.)

THIRTEENTH WEEK.

Columns add to 74. (70-71-72-73-74.)

½ and ¼ of $1.

		Children change these fractions to cents as they are dictated.
$25.79	8,009	$99½
06	9,899	89¼
189.89	8,998	69½
198.88	7,889	88¼
89.99	16,896	89½
69.89	15,989	98½
198.89	7,957	99½
59.95	6,895	99¼
89.89	9,896	
	6	$733¼ or $733.25 Ans. given by children.
$923.23		
	92,434	

FOURTEENTH WEEK.

Columns add to 78. (74-75-76-77-78.)

½, ¼, 2/4, ¾ of $1.

		Teacher reads.	Children write.
$99.22	9,125	$3½	$3.50
99.89	19,828	9¾	9.75
88.87	8,989	6¼	6.25
96.98	6,987	5 2/4	5.50
189.99	18,989	27¾	27.75
98.97	7,697	89¼	89.25
98.99	8,989	67½	67.50
106.89	2,898	95¾	95.75
87.78	6,789	8½	8.50
09	8,387		
			$313.75
$967.67	98,678		

FIFTEENTH WEEK.

Columns add to 82. (78-79-80-81-82.)

⅕, ⅖, ⅗, ⅘, of $1. Rev. ½, ¼, 2/4, ¾ of $1.

		Teacher reads.	Children write.
	$95.22	$13⅘	$13.80
4,756	149.59	9½	9.50
8,989	97.89	6¾	6.75
9,879	69.99	18¼	18.25
7,998	89.88	5 2/4	5.50
7,596	79.97	7⅗	7.60
16,987	69.59	19⅕	19.20
9,889	96.95	6⅖	6.40
6,989	87.89		
7,989	63.75		$87.00
9,018	.09		
90,090	$901.01		

SIXTEENTH WEEK.

Columns add to 86. (82-83-84-85-86.)

⅛, ⅜, ⅝, ⅞ of $1. Rev. ½, ¼, 2/4, ¾, ⅕, ⅖, ⅗, ⅘, of $1.

		Teacher reads.	Children write.
$36.19	9,549	$8⅞	$8.87½
97.89	19,888	19⅜	19.37½
99.89	8,899	5⅖	5.40
88.98	7,998	6¾	6.75
96.97	9,889	18⅝	18.62½
99.89	6,988	6½	6.50
198.89	9,689	9⅛	9.12½
88.89	7,998	8⅘	8.80
50.97	8,769	22⅞	22.87½
57.89	6,989		
			$104.32½
$955.45	96,656		

SEVENTEENTH WEEK.

Columns add to 90. (86-87-88-89-90.)

⅓ and ⅔ of $1. Rev. previous work.

		Teacher reads.	Children write.
$75.29	2,000	$87⅔	$87.66⅔
182.97	7.116	9⅜	9.37½
68.89	5,989	5¾	5.75
59.98	6,898	18⅓	18.33
98.97	7,989	4¼	4.25
89.87	6,959	6½	6.50
88.98	9,889	5⅔	5.66
99.98	7.969	4⅞	4.87½
69.89	6,989	6⅛	6.12½
79.09	9,599		
85.98	8,998		$148.64 1-6
	9.695		
$999.89			
	90,090		

EIGHTEENTH WEEK.

Columns add to 94. (90-91-92-93-94.)

⅙ and ⅚ of $1. Rev. other parts.

		Teacher reads.	Children write.
$31.18	9,897	$19⅚	$19.83⅓
10.29	7,069	9½	9.50
99.97	8,987	7⅜	7.37½
89.69	9,899	8⅙	8.16⅔
88.97	7,989	4⅘	4.80
98.96	8,888	18¾	18.75
89.97	6,999	9⅞	9.87½
69.98	7,969		
88.89	8,739		$78.30
95.95	6,989		
89.79	9,999		
69.59			
	93,424		
$923.23			

NINETEENTH WEEK.

Columns add to 98. (94-95-96-97-98.)

Rev. fractions.

		Teacher reads.	Children write.
$61.89	6,429	$85⅛	$85.12½
29.89	8,888	6¼	6.25
79.86	7,998	17⅚	17.83⅓
98.97	6,998	9⅞	9.87½
89.99	8,968	6⅘	6.80
69.99	9,898	7⅙	7.16⅔
96.89	6,898	8⅕	8.20
97.98	8,968	6½	6.50
69.97	7,698	9⅔	9.66⅔
89.98	8,698		
95.08	9,869		$157.42⅔
97.18	7,568		
$977.67	98,878		

99⅛
88¾
147⅝
99¼
78¾
109⅛
69½
78⅞
65¼
97⅛
99¼
1,032⅜

TWENTIETH WEEK.

Columns add to 100. (98-99-100.)

Rev. fractions.

$51.09	4,307	149½	$124.77⅓
30.06	6,229	69½	95.46⅙
89.95	9,897	98½	8.52⅚
68.97	8,999	189½	5.09⅔
89.99	9,899	79½	7.77⅙
69.59	8,999	88½	8.99⅙
98.98	8,898	165¼	5.43⅔
79.69	7,898	95¾	108.79⅓
88.99	9,888	37½	9.55⅙
54.69	7,999	89½	.88⅙
79.96	7,999	65½	1.95⅔
88.95	8,988	84¼	
99.99			$377.14⅓
	100,000	1,212¾	
$990.90			

	Teacher reads.	Children write.	
145¼	$5½	$5.50	187½
97⅛	16⅜	16.37½	95⅚
99½	5⅚	5.83⅓	199⅔
89¼	9⅔	9.66⅔	79⅓
67⅞	8⅛	8.12½	88½
86¾	1⅘	1.80	96⅔
69⅛	11⅞	11.87½	55½
88⅝	19⅔	19.66⅔	98⅓
46½	7⅙	7.16⅔	97½
88½	4⅕	4.20	86½
95½	1¾	1.75	95⅔
1,074		$91.95⅚	1180⅚

SUBTRACTION.

THIRTEENTH WEEK.—½ and ¼ of $1.

Teacher reads.	Children write.	
$450½	$450.50	54,004
— 73	73.00	— 6,087⅝
	$377.50	47,916⅜
$150½	$150.50	20,002
67¼	— 67.25	— 2,020⅞
	$83.25	17,981⅛

FOURTEENTH WEEK.—½, ¼, $\frac{2}{4}$ ¾ of $1.

Teacher reads.	Children write.	
$700 $\frac{2}{4}$	$700.50	19,009
16¼	— 16.25	— 5,437⅛
	$684.25	13,571⅛
$732¾	$732.75	62,850
19½	— 19.50	—15,436⅔
	$713.25	47,413⅓

FIFTEENTH WEEK.—⅕, ⅖, ⅗, ⅘ of $1. Rev. ½, ¼, 2/4, ¾ of $1.

Teacher reads.	Children write.
$450⅕	$450.20
9¾	— 9.75
———	———
	$340.45
$675⅖	$675.40
$ 83.13	— 83.13
———	———
	$592.27
$493⅗	$403.60
— 19.62	— 19.62
———	———
$500⅘	$383.98
	$500.80
65.18	— 65.18
———	———
	$435.72

SIXTEENTH WEEK.—⅛, ⅜, ⅝, ⅞ of $1. Rev. ½, ¼, 2/4, ¾, ⅕, ⅖, ⅗, ⅘ of $1.

Teacher reads.	Children write.
$433⅛	$433.12½
90.52	— 90.52
———	———
	$342.60⅛
$737⅜	$737.37½
— 109.68	— 109.68
———	———
	$627.69½
$512⅝	$512.62⅛
— 2.23	— 2.23
———	———
	$510.39½
$322⅞	$322.87½
— 95.56	— 95.56
———	———
	$227.31⅛

SEVENTEENTH WEEK.—⅓ and ⅔ of $1. Rev. previous work.

Teacher reads.	Children write.
$200⅓	$200.33⅓
— 11.56	— 11.56
———	———
	$188.77⅔
$432⅔	$432.66⅔
— 85.37	— 85.37
———	———
	$347.29⅔
$511⅓	$511.33⅓
— 245⅘	— 245.80
———	———
	$265.53⅓
$950⅔	$950.66⅔
— 780¾	— 780.75
———	———
	$169.91⅔

EIGHTEENTH WEEK.—⅙ and ⅚ of $1. Rev. other parts.

Teacher reads.	Children write.
$495⅙	$495.16⅔
— 289.73	— 289.73
———	———
	$205.43⅔
$179⅚	$179.83⅓
— 109.57	— 109.57
———	———
	$70.26⅓
$307⅙	$307.16⅔
— 195¼	— 195.25
———	———
	$111.91⅔
$870⅚	$870.83⅓
— 389¾	— 389.75
———	———
	$481.08⅓

NINETEENTH WEEK.—Review.

		Teacher reads.
19,009⅚	15,070⅞	$850⅚
— 9,090⅔	— 8,952¾	— 749⅖
———	———	———
9,919⅙	6,118⅛	

Children write.	
$850.83⅓	65,420
— 749.40	— 19,538⅞
———	———
$101.43⅓	45,881⅛

TWENTIETH WEEK.—Review.

		Teacher reads.
44,040⅔	87,076⅚	$750⅝
— 33,905½	— 15,329½	— 195⅚
———	———	———
10,135⅙	71,747⅓	

Children write.	
$750.62½	72,600
— 195.83⅓	— 45,057⅛
———	———
$554.79⅙	27,54[illegible]

MULTIPLICATION.

THIRTEENTH WEEK.—Multiply by 2 orders and a fraction ⅖, ½ and ¼ of $1.

	Teacher reads.	Children write.
831	$7½	$7.50
× 86⅖	× 80⅖	× 80⅖
5) 1662		5) 1500
332⅖		300
4986		60000
6648		$603.00
71798⅖		

FOURTEENTH WEEK.—Multiply by a mixed no.—2 orders—⅗, ½, ¼, 2/4, and ¾ of $1.

	Teacher reads.	Children write.
607	$9¾	$9.75
× 59⅗	× 94⅗	× 94⅗
5) 1821		5) 2920
364⅕		585
5463		3900
3035		8775
36177⅕		$922.35

FIFTEENTH WEEK.—Multiply by a mixed no.—2 orders—⅘, ⅕, ⅖, ⅗, ⅘, of $1.

	Teacher reads.	Children write.
874	$7⅗	$7.60
× 85⅘	× 49⅗	× 49⅗
5) 3496		5) 2280
699⅕		456
4370		6840
6992		3040
74989⅕		$376.96

SIXTEENTH WEEK.—Multiply by a mixed no.—2 orders—5-6.

873	$9.30
× 78⅚	× 90⅚
6) 4365	6) 4650
727½	775
6984	83700
6111	$844.75
68821½	

SEVENTEENTH WEEK.—Multiply by mixed no.—2 orders—⅜.

$587	190
× 56⅜	× 89⅜
8) 1761	8) 570
220⅛	71¼
3522	1710
2935	1520
$330.92⅛	16981¼

EIGHTEENTH WEEK.—Multiply by a mixed no.—2 orders—⅝.

$140	605
× 34⅝	× 69⅝
8) 700	8) 3025
87½	378⅛
560	5445
420	3630
$48.47½	42123⅛

NINETEENTH WEEK.—Multiply by a mixed no.—2 orders—⅞.

$6.50	857
× 45⅞	× 90⅞
8) 4550	8) 5999
568¾	749⅞
3250	77130
2600	77879⅞
$298.18¾	

TWENTIETH WEEK.—Review.

505	$7.32
× 769	× 84¾
4545	4) 2196
3030	549
3535	2928
388345	5856
	$620.37

DIVISION.

Thirteenth Week.—Long div. by 3 orders within 550.

$90\frac{57}{549}$
549) 49467
4941
57

Fourteenth Week.—Long div. by 3 orders within 600.

$ .98
599) $587.02
5391
4792
4792

Fifteenth Week.—Long div. by 3 orders within 650.

$66\frac{605}{638}$
638) 42713
3828
4433
3828
605

Sixteenth Week.—Long div. by 3 orders within 700.

$78
698) $544.44
4886
5584
5584

Seventeenth Week.—Long div. by 3 orders within 800.

89
778) 69242
6224
7002
7002

Eighteenth Week.—Long div. by 3 orders within 900.

87
856) 74472
6848
5992
5992

Nineteenth Week.—Long div. by 3 orders within 1000.

93
987) 91791
8883
2961
2961

Twentieth Week.—Review.

$6.79
57) $387.03
342
450
399
513
513

169
326) 55094
326
2249
1956
2934
2934

The Study of a Continent

With Special Reference to 4B Grade in New York City.

By Alexis Everett Frye.

NOTHING in geography stands alone; everything has relation or setting. The climate, life, commerce, history, of North America have for a setting the entire world—the winds, oceans, latitude, foreign people, work, products, etc. This is doubtless the main reason why the course of study for Grade 4B includes the world and continents in general. Let us look back from our continent to see what precedes; then let us look forward to see where the work is to lead.

We still stand on this principle: *Teach nothing without a purpose.* It is our purpose to present North America in its world relations. Broadly speaking, they are simple as regards primary work, yet these simple relations form the very basis of the higher study. The continent has size and position relative to other lands and seas; the world-study shows what they are. It varies in climate north and south; the globe tells why. Its western highlands is part of a greater world highland; the globe shows this fact.

Here, then, we have the key to our world-study: It includes the form and size of the earth; the simple plan of heating in belts; the trade winds of the hot belt, and the westerly winds of the cooler belts; the chain of highlands forming the backbone of the lands, with wide slopes on the Atlantic side, and less wide slopes on the other; the belts of plants; the natural regions of animals; stories of people of different color, habits, etc. Now, if we glance back over this last sentence we shall see that while it outlines the simple world study, it also gives a setting to each of the continents and lays a basis for the special study of each in its relations to the whole,—each is set in the world relief, in belts of heat and winds, in belts of plant life, etc. This is the purpose.

In Grade 4B, the "Continents in General" form the first topic. We have viewed the world as a unit and are now ready to study in detail its larger parts. The natural line of work seems to be to give pupils some notion as to what these large parts are, how they are separated, and particularly *such details as they possess in common.* The *special details* belong to the latter study of the individual continents.

Basing the work on that which has gone before, we find that the lands of the world are surrounded by water; that the water cuts through the world highland in one place (Bering Strait) and almost cuts across in two other places (Panama and Suez)—also that there are many large islands in the sea; the great masses of land thus wholly or nearly separated by the sea may be studied singly as continents and islands. The globe-study shows also that from the great body of water round the south pole, long arms reach out between the continents; different names are given to these arms or oceans, as well as to the continents and islands, and both the lands and the seas may be studied *on a globe* with reference to their relative positions, sizes and forms. Little globe-maps, like the cut used herewith, may prove helpful, but globes are better.

Pupils have learned the simple plan of the world relief—the great highland chain, with its slopes to the sea. They may now observe which portion

of this relief is in each continent, and also whether the wide slope is broken by lesser highlands such as the Appalachians, though the names of the lesser highlands need not be required at present. This work should be very simple, taking only one or two lessons.

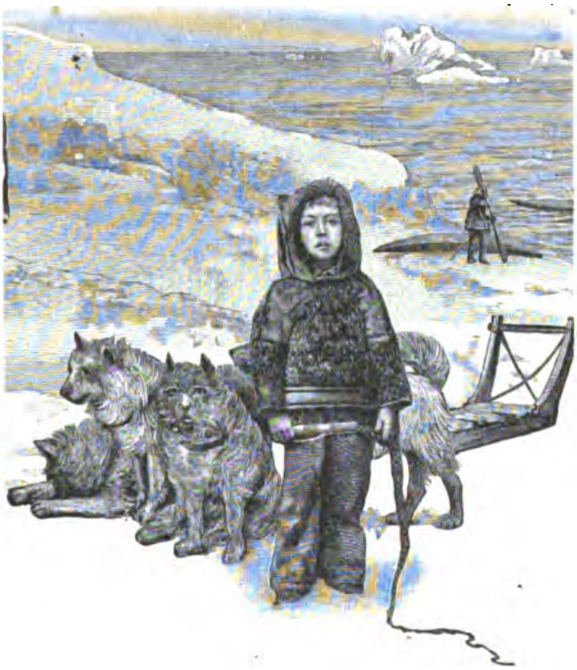
The rest of the *general* continent study may take the form of review of the work of Grade 4A, leading pupils to read from a globe or from globe-maps simple facts in regard to the various continents, whether they are wholly or partly in the hot belt, with its steady winds from the east, or in the cooler belts having the most of their winds from the west, or even in the very cool regions near the poles. Pupils can also state in general whether the products belong to the hot belt or to the cooler belts. Stories of people of the various races clothe the continents with interest.

When the above work has been done, the study of the individual continent follows naturally. Which shall come first? South America is simplest in outline, surface, drainage, and in other respects, but North America is our home continent. Some teachers prefer to begin with one, some with the other, and it is hard to say which is the better plan.

In beginning the study of North America, this question confronts us, where must the work lead us? The answer is clear. It must lead to the rational knowledge of how the land is fitted to be the home of man. The word *rational* suggests reasoning, that there is a series of relations, and of course every geographer recognizes the simple series leading from the study of natural regions, through climate and products, to man and his works or history. Herein we discern a principle to guide the selection of subject matter and the order of its use. Choose such facts as form links in this geographic chain, such topics as lay the basis for higher work; present each topic when it is needed in preparation for a higher step. Memory comes from the linking of ideas; reason forges the strongest chain; linked facts give understanding; thus understanding aids the memory. Isolated facts are mental barnacles.

In the books on geography we have pictures, maps and text. How may each be used? Fully as careful study should be made of the pictures as of the text or maps. Doubtless most teachers will agree that we get a fuller, richer knowledge of descriptive geography from pictures than from text. For example, does our knowledge of the Arctic lands, seas, climate and life come chiefly from written words or from pictures? When we think of the cold, do we not recall pictures of frozen seas, ships in ice, Eskimos in furs, etc.? When we recall the Eskimos themselves and their mode of life, do we rely more on the text read or on pictures seen? Of course, both have helped, but which is more? Turning from descriptive geography to the study of cause and effect, the *text* grows in importance, if it has a full background of observation, experience and experiment. Of course, in the study of *where,* maps take the leading role.

One picture may serve for many different lessons. This little cut of the Eskimo boy would prove helpful whether the topic were Arctic seas, Arctic life or Arctic climate. Will the reader kindly give a moment to the simple picture and see how it fairly bristles with climate? See its ice, the shaggy dogs, the boy's furs; the dogs drag, not a cart, but a sled; a thick coat for the boy does not suffice, but a hood covers his head; the floating blocks of ice suggest that masses of great thickness must break from the lands; indeed, climate seems to be the *motif.*



Have we exhausted the little picture? Approach it now from the standpoint of the Arctic people, let the Eskimo boy be the central figure, and at once the scene changes. How does he keep warm? Where does he find food and material for clothing? Of what use are the dogs to him? Of what and how does he make his sled? In other words, how does he fit himself to his surroundings? Later this very picture may help in the study of the polar seas, or in the study of animal life in these cold regions. In the latter instance, witness the boy's coat and hood, his whip or lash, the harness, the kayak, and note how they point towards the Eskimo's best friend. the seal.

Not all pictures are to be studied in one manner, of course. Some may form the basis of oral or written language lessons; others may best be studied by drawing or modeling. In the oral lesson the picture not only quickens the mind to see, but also quickens it to receive and retain related facts from the rich storehouse of the teacher. As years roll by, pictures will gain a higher and higher place in all text-books of geography.

Second in value among the materials for teaching geography are maps. These may be studied like pictures. The purpose is, not alone to gain knowledge of the world's chief features and the location of places, but also to gain *power to read maps,*—that is, skill in getting thoughts from maps. As with a picture, so with a map,—the pupil gains the most power to interpret, not by the leading strings of map questions, but by walking—creeping, if need be—alone, or sustained and encouraged in difficult places, by the helping hand of the teacher. There is no need of a map question except when interest lags, or when the teacher wishes some particular bit of information to be gained; the latter is not the general but the specific case.

For example, we may choose a lesson on the surface or relief of North America. Let us place before the class a relief map, such as may be found in most text-books. Our question may be simply, "What does the map show about the surface of our continent?" What is the object of the question? It is to lead pupils to read from the maps the general arrangement of the surface features. Let each mind work in its own natural way. Of course, the answers will be rambling, and we are glad of it, for they show individual thought. One pupil tells of the high mountains in the west; another of the ragged shore line; others of the great central plain, or the large lakes, or the directions of large rivers, or the low eastern highlands, etc. Views may differ, but the writer prefers not to have the natural features of the map obscured by names printed on the map, for the pupils soon locate *mere names,* without looking closely to the forms. If we would teach them to read maps, let us lead them to interpret the map characters,—to read a river, not in the words Mississippi River, but in the map sign which indicates the length and direction of the stream; to read a mountain chain, not in the words "Rocky Mountains," but in the lights and shades that make the surface look rugged. On another map near at hand, the pupil should be able to find readily special names *when* they are needed.

Now, the pictures should be ready for use. If the pupil speaks of the great range along the eastern border of the Western highland, the teacher can clinch the discovery by saying, "This is a picture of part of that mountain chain." The pupil tells of a certain lake; the teacher adds, "That is the Great Salt Lake, and here is a picture of one part of its shore." With the picture in hand, the teacher also tells some interesting or important fact about each feature, thus making the map *real.* The pupils soon become very eager to find other features, hoping that the teacher will have corresponding pictures to show. Are map studies a bugbear to pupils? Not when they are led to read the map for themselves and to see pictures of the features they discover.

After the pupils have seen in a general way the principal features, the teacher may direct to more specific work by saying, for example, "What else does the map show about the Western highlands?"

Thus narrowing the field of study, teachers can lead to as close a classification of features as is desirable. The map studies in text-books may serve for review or as an aid in leading pupils to associate names with places. Most of the important names will, however, be given by the teacher in connection with the first lessons in map reading.

Drawing is a natural means of leading the pupils to study outlines of maps, just as modeling is a natural means of guiding them to the study of surface forms. The purpose of the drawing, for example, is to lead pupils to see the features that broadly influence the higher study of geography,—to see the general directions of the coast lines of the continent, *because* of the influence over climate, commerce, etc.; to see the large bays and peninsulas that affect the climate of important natural regions; to see the principal commercial bays and harbors.

Here, as in all other parts of the work, *have a purpose;* we may omit the thousand and one details of coastline that have little if any influence over the life of a continent. The maps of continents in all text-books are so highly generalized that, although the general contours are correct, *not a single detail is or can be correctly represented,* owing to the small size of the maps. A straight line or a simple curve on such a map generally takes the place of a thousand details on a chart of the Coast Survey. Why should the minds of children be clogged with details of coastlines, which are not copies of nature, and which have no bearing on the higher work in geography? Does it not seem better to be guided by some such principle as this: "Lead pupils to draw only such large general features of coastline as affect climate, the distribution of plants and animals in regions, or the location of commercial or historical centers?"

In these drawings, the only construction lines needed are such as the pupils *discover* for themselves, in the relative directions of coastlines. Perhaps the first lesson or two on each continent may consist in sketching three or four straight lines that show the general directions of the coasts. Each pupil should judge for himself these directions, because the very object of the work is to lead him to see. Once the general directions are fixed in mind, the few important bays and peninsulas can be included. Details can be added as they are needed.

The text should be handled in the same broad way as the pictures and maps. It was a blessed day for children when teachers of geography and history turned away in disgust from the narrow fretful method of calling for answers to the puttering questions printed at the foot of each lesson of text, and set the minds free to grapple with broad topics. That simple change in method of teaching affects far more widely the future of our country than can the annexation of all the islands taken from Spain in 1898. Perhaps it will not be out of place to summarize a few plans for topical study. Thus, pupils may be told (1) to learn what a lesson tells about each of two or three topics; (2) to re-write the lesson in their own words; (3) to write questions which will bring out the various thoughts of the text; (4) to originate a list of two or three topics covering the lesson. The recitations of course may be greatly varied. Pupils may discuss the topics, or write about them, or tell what they consider the most important facts of the lesson, or ask each other questions bearing on the text, or be prepared to answer broad questions asked by the teacher, etc.

It is beyond the limits of a brief article to discuss very fully the selection of subject matter bearing on a continent. During the last quarter century the teaching of geography has gone forward with rapid strides. This is chiefly the result of development of science itself. Are we wrong in saying that fulness of knowledge has more to do with good teaching of geography than has any amount of method study, valuable as the latter is? A few years ago we were content to teach a plain as a tract of land nearly level. To-day we know that such a statement looks simply to the surface form of the land, and in itself has much less bearing on life, commerce or history, than has the study of the origin and age of forms. In our own country we find examples of all types of plains that show the close relation between the *origin of the land* and the resulting life therein. Thus, along the South Atlantic and Gulf coasts we find vast areas that were once sandy or muddy sea-bottoms; we look in vain for hard building stone or for mines of iron, gold, copper or other metals; yet pottery clay and sand glass abound, while fertile marls are plentiful; the soils vary with the parts of the former sea-bottoms, and also with the periods of time that the soils have been exposed to the weather, thus giving one belt for rice, another for pine forests, another for cotton, etc.; the inner edge of this plain marks the fall or power line in the rivers. The life hinges on the kind of plain, depending on its origin.

Turning to the region of the Columbia River we find immense plains formed of lava that has flown from fissures, then cooled and hardened; the lava supports little more than sage-brush on the upland levels. Again, we look over the broad fertile wheat fields of the Red River Valley in North Dakota, and across to the Manitoba plains further north; these plains had their origin under an ancient lake, and the fine soil is lake mud just suited to the growth of grain. So we might visit the rice swamps in the great delta plains, or the fertile meadow lands made by flooded rivers, and we should see that the life on each kind of plain is closely related to the origin of the land. A plain, therefore, is no longer merely level land; the geography of to-day looks below the surface and traces the land from its origin to its product, showing the relations between them.

What is true of plains is also true of the other principal forms of land. The life upon them is due chiefly to their origin and climatic setting. This study of origins of land-forms bears strongly on the higher work, not alone in geography, but also in history and literature. It is this kind of work which characterizes the so-called "new geography." The first or primary steps are very simple, yet they lead into fertile fields of study. Without attempting to outline the work bearing on our continent, the above example may serve to indicate the nature of the work at present being done by many strong teachers.

As each natural region is studied in a simple way, it is given its place in the belts of heat and winds (or rainfall); pictures of its people, plants, animals, scenery, etc., are shown; the *reasons* for the location of important cities are discussed; samples of some of its common products are used as a basis for language lessons. In all this work our own country should receive a very large share of attention. Simple sketch maps may be made, showing the principal areas producing cotton, wheat, corn, forests, beef cattle, coal, iron, gold and silver,—the chief products used at home or shipped abroad.

Not only may we study the general distribution of people in races over the continent, but coming to our own country we may learn who the early inhabitants were, what white people came as colonists, how slavery was introduced, how the colonies grew to states, what parts of our country are now settled chiefly by farmers, by miners, by manufacturers, etc. This work lays a broad basis for the later study of the states or groups of states; in fact it is an excellent plan to locate the states in the various producing regions as studied. Then the later study of states will deal with fuller details.

The question is often asked, "Which is the more important, physical or political geography?" If by "political" geography is meant the study of cities and countries independent of their natural surroundings, without showing the reasons for their growth or location, it would seem as if such study belonged to the schools of a century ago, and not to those closing years of our century. If, on the other hand, we recognize that natural surroundings must be studied in order to give intelligent knowledge, then the question is best answered by saying that we would weave together the physical and political geography, and that neither by itself is worthy of a place in the lower grades of our schools.

It may not be amiss to offer one illustration along this line. Take the group of cities growing up on the Great Lakes. Some of the isolated facts that might be *told* about them are as follows: They ship great quantities of grain and meat; they have iron foundries and furniture factories; both their railroad and their lake trade is very large; iron ore is shipped to them. On the other hand let us first study the natural regions that surround and support these cities. Let us look to the prairies, with their grain and cattle; to the soft-wood forests round the upper lakes; to the hard-wood forests of the states south of the Great Lakes; to the lakes themselves, with their connections eastward along the Erie Canal or down the St. Lawrence; look also to the coal, oil and gas fields of the states south of the lakes; consider the needs of the farmers, ranchmen, miners, lumbermen, sailors, railroad men, etc., and we have the key to the growth not only of the lake cities, but also of the great states themselves. A pupil can readily see that with iron ore cheaply carried on the lakes, and with plenty of coal in the northern Appalachians and the Ohio Valley, the cities would be likely to manufacture such iron articles as are needed by the classes of people named above; that the iron and hard-wood might be used in making agricultural implements for the farms; that oil would be refined where it could be cheaply freighted; that the farms would call for great quantities of lumber and furniture; that the lakes would offer the cheapest freight route eastward towards the great centers of population and also towards the seaports trading with Europe; that therefore grain and wheat would be shipped from the lake ports; that all parts of the prairies must be reached by railroads, to gather up the products, and that most of these roads must run to the lake and river ports;—in other words, the simple physical geography *lays a basis for the facts* that often pass under the title of political geography; the two branches together should bear the name of *Geography.*

Our subject would perhaps not seem complete without some reference to the word "correlation," which has as many meanings as there are people who use it. Without entering into any lengthy discussion, the writer would state that he has not the slightest leaning towards the party that would try to make geography the sun round which all other studies should revolve like satellites, or the one study in which all others should be taught incidentally. While the common school branches have much in common, each in turn except such as are mere modes of expression, seems to call for consideration as a matter of study. A common school course may well have *shifting centers of thought* or study,—now arithmetic, now geography, now history, etc.,—each carried forward in a natural or scientific way. At the same time we must seek to strengthen each of the studies by drawing from the others related matter. Suppose that for a particular hour the pupils have geography for the central study; if any historical preference will help the *geography,* bring it in; if any arithmetical problem in longitude and time will help the *geography,* perform it; if pupils can learn the geography lesson best by drawing, then by all means let them draw; if illustrations are needed from botany, zoology, astronomy, or any other study under the sun, let us have them, when they will help our central study of *geography.* At another time, when the central study is arithmetic, let us draw from every source tending to help the arithmetic. That is, while studies that are merely modes of expression may be very largely taught incidentally, the knowledge or culture studies seem to require individual treatment to secure natural development. Briefly stated, the principle seems to be this: Using the various subjects as successive centers of study, group around each all that can be drawn from the others bearing directly on the central subject of study.

The thought of *correlation* is beautiful if we take the word to mean *making studies bear together,* or *using facts from one study to throw light on another.* The writer prefers merely to suggest that teachers continue the good old practice,—in fact, expand it,—of taking helpful illustrations from all studies bearing on the geography lessons.

History is doubtless the subject most closely related to geography. These two studies must go hand in hand,—the one now the center of study, now the other,—yet with each receiving its orderly development. The study of the two subjects in this manner will more than double the value of the work. This is evidently the purpose of the parallel historical readings suggested in the New York course of study.

Geography—5A

By Mary Woodlock, P. S. 21, Brooklyn.

The general aim of geography teaching should be to enable the child to realize that the earth is the dwelling place of man. The particular aim in 5A should be to enable the pupil to realize that North America is the home of Americans and that in the United States, his own part of the continent, the natural resources, products, industries, and social conditions help to make it a great country. The feeling of national pride that can be cultivated in this connection will serve as a firm foundation upon which to build an enduring structure of patriotism and civic duty. History and nature study should correlate intimately with the geography, contributing a clothing of life to the otherwise dry bones of fact. The height of mountains, the length of rivers, the exact area of countries and such wearisome details sink into insignificance beside the human aspect of earth description. "Geography deals with places, nations, terrestrial features, and processes," and to all, but the student of inner causes of things, these are interesting only in so far as they concern man and his struggle for existence.

Ever since the Greek man with the hoe deserted the unprofitable soil of his country and set out as a trader along the shores of the Mediterranean, all movements of population have had as their origin the securing of food. Nomadic peoples pack their household gear and move on when means of subsistence in one place are exhausted. In exactly the same way civilized peoples expand and seek pastures new, when the pressure of conditions renders it increasingly difficult for them to find their daily bread amid their old surroundings. Cities spring up in the trial of these last. Nature is, in many cases, made to conform to their demands. The direction and character of this expansion is always determined by geographical laws. These laws, consequently, are most interesting when considered in the light of their relation to man.

Geography being primarily a content study, a certain amount of information must be given directly, and a certain amount of memorizing required. The last will follow naturally upon aroused interest, and chief among the means of promoting interest are pictures. These should be characteristic and varied, and they may be collected from innumerable sources. The assortment of cheap published pictures is large and these may be supplemented by gleanings from magazines, railroad and steamship folders, summer resort catalogs and so on. Those of us who suffer from the exposition habit have valuable stores of information at hand in pamphlet form, as well as in memory.

In this connection the childrens' scrap book is important. It can be made of wrapping paper with strong cardboard covers. A committee appointed to take charge of it will attend to the placing of the pictures. Children who contribute should hold themselves ready to give a few words of information about their pictures when called on. This will help to cultivate the very valuable habit of looking up the unfamiliar places encountered; a habit that is one of the landmarks on the road to that store of "general information" so highly appreciated, and so rarely found. The scrap book should be placed accessibly and used to fill in the few vacant moments that occasionally occur.

In the teaching of products and industries facts can be brought very near to the child. The teacher who produces an empty salmon tin and asks for information regarding it, will teach the Columbia River much better than she who merely proclaims bare facts about it. The fact that Chicago is the centre of the beef trade is most easily impressed by allowing the children to examine some of the illustrated and descriptive circulars issued by the great packing firms. The advertisement sections of the magazines yield plenty of material for teaching manufactures, and collections of specimens of all kinds are almost indispensable. These last will collect themselves to a surprising extent, when it becomes known that all is fish to the geographical net. Manufacturing, agricultural areas, forest belts, etc., may be indicated on outline maps. If it is not possible to obtain these in sufficient quantities from the supply department, it is well to remember that a very satisfactory home-made hektograph will cost less than twenty-five cents. Elaborate map drawing is beyond the requirements of this grade, but quick sketches of the general outline of the continent, no matter how crude, are helpful.

The class-room maps should, where possible, be hung on the north wall. Occasionally, if the style of map permits, they should be laid on the floor. A globe for each child seems to be rather an unusual feature, but it is an eminently desirable one. The six inch globe is entirely adequate and is quoted on the supply list at twenty-two cents. In using this we can prepare for work higher up by emphasizing the necessity of pointing the axis always to the north.

"Reviews should aim to put the child in possession of facts for use, by causing him to approach them from as many sides as possible." Some of these new aspects may be developed along the lines of the correlation of geography with history and nature. Let us not be guilty of turning out children like the unfortunate that grew up under the impression that the Jerusalem of the Sunday school and that of the class-room were two different places.

TERM PLAN.

First Month.

North America—Location. Surface. Climate. Boundaries.

Second Month.

North America Continued—Outline. Drainage.

Third Month.

North America Continued—Life Features. Chief Cities.

Fourth Month.

United States—Location, extent, boundaries, surface, drainage. Areas of industry.

Fifth Month.

Division into groups.

North America.

I. Location.

In northern half of Western Hemisphere. West of Europe. East of Asia. Between the Atlantic and Pacific Oceans.

Latitude extending from about 8° North to 85° North, the most northerly point of exploration.

Longitude: West from Greenwich. Importance of agreement among nations regarding the prime meridian.

Heat belts: Cold, cool, warm, hot.

Size: Compare with other continents. Have North America cut in cardboard and superpose it upon the other continents, on a map of similar scale.

II. Surface.

1. Atlantic Slope or Plain.
2. Appalachian Highland.
3. Great Central Plain.
4. Rocky Mountain, or Pacific Highland.
5. Pacific Slope.

Note direction of the extent of mountain ranges.

1. *Atlantic Slope* lies between the Appalachian Mountains and the ocean. It extends from Labrador to the Gulf of Mexico. The northern part of this slope is more elevated than the southern part. Its rivers are short and most of them are navigable. The most important harbors and seaports of the country are situated here.

2. *Appalachian Highland* extends from the St. Lawrence almost to the Gulf of Mexico.

3. The *Great Central Plain* extending from the Atlantic Ocean to the Gulf of Mexico, is crossed in the middle by a slight divide called the Height of Land. On the north lie the Arctic and Hudson Bay Slopes, on the south the Gulf Slope. The latter slope is so gradual that its rivers are navigable for long distances.

4. *Rocky Mountain Highland,* the western boundary of the Great Central Plain, extends from the Isthmus of Panama to the Arctic Ocean.

Its subdivisions are: Rocky Mountains, Great Basin, Sierra Madre, Sierra Nevada, Cascade, and Coast Range.

5. *Pacific Slope,* an extremely steep slope between the Highland and the Ocean. Its rivers are not navigable. Why?

III. Climate.

The climate of any place is chiefly determined by its distance from the equator, change of seasons, mountain ranges, winds, and currents.

North America extending from a few degrees north of the equator to the North Pole experiences every variety of climate.

Zones and Seasons. The torrid zone is that belt of earth some part of which receives the vertical rays of the sun each day in the year. The temperate zone receives the oblique rays of the sun each day. The frigid zone receives oblique rays during a part of the year.

On June 21 the earth has moved so as to catch the sun's rays vertically upon the Tropic of Cancer. It is then our summer. What season is it in Australia? On September 22 the earth has moved so that the sun's rays are vertical at the equator. Have we moved toward the vertical rays or away from them? What season are we approaching? On December 21 the sun's rays are vertical at the Tropic of Capricorn and it is our winter. On March 22 the vertical rays are again at the equator and our spring begins.

Mountain Ranges and Winds. The mountains of North America extend north and south. The winds from the north and south, consequently, have free play upon the continent. The southern winds make the Mississippi Valley a productive farming region. The northern winds do some damage during winter, but repay us by mitigating the heat of summer.

The Pacific Coast is visited by moisture laden west winds from the ocean. These winds drop their burden of moisture in the Pacific Highland. (Why?) They reach the Mississippi Valley as dry winds, making the plains of the Northwest arid and dry. The East and South are saved from a like condition by the moist winds from the Gulf and the Atlantic. Why does not the Appalachian Highland intercept the moisture from the Atlantic.

Currents. The Labrador Current. A cold current from the Arctic Ocean, brings large quantities of ice to Labrador and Newfoundland. It is felt as far south as Cape Cod. The Gulf Stream, a warm current from the Gulf of Mexico, flows northeast across the Atlantic to Europe. It meets the Labrador current and the fogs that render this part of the ocean so dangerous result. (Why?)

What effect has the Labrador current on the climate of Nova Scotia?

Effects of climate on plant and animal life.

Heat and moisture are both required for the support of plant life. Where heat is in excess and moisture restricted vegetation ceases, or consists wholly of cactus-like plants, bunch grass, etc. Where heat and moisture both prevail there is an abundance and variety of plant and animal life. This is the case in the tropics, and as we go toward the poles plant and animal life become less varied, less abundant, and more sober of hue, until in the farthest North only the lowest forms of plant life remain.

Climate effect on man.

The brain, like every other organ, acquires keenness only with a certain amount of usage. Man uses his intelligence mainly to make the conditions of his life pleasant. In the tropics moisture meets man more than half way in supplying his wants. In the polar regions Nature works against man and the drudgery of his unequal struggle clouds his intellect. In the temperate zone man can provide the necessaries of life with a moderate amount of effort and have leisure to turn his thoughts to other pursuits. Consequently man reaches his highest development in a temperate climate.

Contrast the climate of Labrador with that of the British Isles; the climate of Greenland with that of Norway. Mention some places in the torrid zone that is cooler than New York.

IV. Boundaries.

North, Arctic Ocean; East, Atlantic Ocean; South, Gulf of Mexico and Caribbean Sea; West, Pacific Ocean.

V. Outline.

General characteristics of shape. Rough sketches made to locate large peninsulas, gulfs, bays, and seas.

Character of coast: Labrador and New Foundland, rocky and desolate, a menace to Transatlantic commerce. *Nova Scotia,* and the *northeastern United States* noted for good harbors. *South* of *Cape Henlopen* the coast becomes low, and the harbors poor. *Florida* is partly surrounded by coral reefs. "Florida Keys." *California* has a dangerous rock-bound coast.

Peninsulas: Nova Scotia, Florida, Yucatan, Lower California, Alaska Peninsula.

Capes should be emphasized in their relation to commerce. Lighthouses, and the other means for safeguarding shipping should be discussed.

Cape Race (Newfoundland); *Cape Cod* (Mass.); *Sandy Hook* (New Jersey entrance to New York Bay); *Cape Hatteras* (North Carolina); *Cape Sable* (Florida); *Cape Corrientes* (Mexico); *Cape San Lucas* (Lower California); *Cape Mendocino* (California); *Cape Flattery* (at entrance to San Juan de Fuca).

Bays, gulfs and seas: Baffin Bay, connected with the Atlantic Ocean by Davis Strait. *Hudson Bay,* connected with Atlantic by Hudson Strait. *Gulf of St. Lawrence,* connected with the Atlantic by the Strait of Belle Isle. *Bay of Fundy,* between Nova Scotia and New Brunswick. *Gulf of Mexico,* connected with the Atlantic by Florida Strait. *Caribbean Sea,* connected with the Gulf of Mexico by the Yucatan Channel. *Gulf of California. Behring Sea,* connected with the Arctic Ocean by Behring Strait.

Topics for discussion.

Whale and sea fisheries in the Gulf of St. Lawrence and Hudson Bay. The high tide in the Bay of Fundy. The effect on commerce of the ice and the fogs off Newfoundland and Labrador. The Gulf Stream.

Henry Hudson. The Cabots. Francis Drake. Vitus Behring.

Islands: Greenland and *Iceland. Newfoundland. Anticosti* and

Prince Edward Island, in the Gulf of St. Lawrence. *Long Island. The Bermuda Islands,* coral islands, situated east of Cape Hatteras in the track of the Gulf Stream. The *West Indies. Vancouver Island,* separated from and mainland by the Straits of Juan de Fuca and Georgia. *Kadiak Island,* the home of the Kadiak bear. The *Aleutian Islands.* The *Pribilof Islands,* the home of the fur seal.

Topics.

The coral polyp. Seal fisheries in Behring Sea.

Are Greenland and Iceland of commercial importance? Give reason for your answer. Compare the climate of Bermuda with that of North Carolina. Give reasons.

VI. Drainage.

Rivers. Uses: drain country or surplus water, make land fertile, wear down hills and build up valleys, are routes of trade when navigable, furnish water power for machinery. The continent of North America is drained by its rivers into the Arctic, Atlantic and Pacific Oceans, and the Gulf of Mexico.

Arctic Ocean. Mackenzie River, Saskatchewan and Nelson.

Atlantic Ocean. St. Lawrence, Connecticut, Hudson.

Gulf of Mexico. Mississippi and its tributaries. Rio Grande.

Pacific Ocean. Yukon, Frazer, Columbia, Colorado.

In what direction do these rivers flow? What division of the continent do they drain? Where are the longest rivers and why? Where are the shortest rivers and why?

Lakes. The Great Lakes; Superior, Michigan, Huron, Erie, and Ontario, are situated in a depression sloping toward the Atlantic Ocean. They are drained by the St. Lawrence. Navigation, of the lakes and the rivers to the Atlantic, has been made possible by canals.

Topics.

The Saguenay River. Logging on the St. Lawrence. The Thousand Islands. Niagara Falls. The structure of a lock canal. The Pictured Rocks. The Grand Canyon of the Colorado. The Columbia River fisheries. Gold fields near the Yukon. Jacques Cartier. Henry Hudson. De Soto. La Salle. Marquette and Joliet; their connection with the Mississippi.

VII. *Life features.* Peoples.

White races: Danish, Spanish, French, English. Denmark controls Iceland and Greenland and some of the smaller West Indies. France once owned Canada which is now English, but a large portion of the population is of French descent and uses the French language and customs.

The United States is controlled by English-speaking people. A sprinkling of French descendants is found in Louisiana, and large immigration of Germans, Italians, Russians, etc., continues.

Spain does not control any territory in North America, but descendants of Spaniards occupy Mexico, Central America, and the West Indies.

Red Race: Eskimos, occupy the shores of Behring Sea, Labrador and the inhabitable parts of the Arctic coast.

The Indians of Columbus' time were not all of the same grade of intelligence. They were savage, barbarous, and partly civilized. The Aztecs may be assigned to the latter class. At present the greater part of the Indians of North America are to be found in Central America and Mexico. In the United States they are restricted to reservations, principally in the West. In Canada they are on reservations and around the shores of Hudson Bay.

Black Race: The negroes, at first brought from Africa as slaves, are found mostly in the Southern United States and in the West Indies, San Domingo.

Vegetable life:

Hot belt: Dyewoods, rosewood, mahogany, ebony, rubber, palm, cocoanut, medicinal plants, bananas, coffee, sugar-cane, rice, oranges, lemons, pineapples and other fruits.

Warm and cool belts: Cotton, tobacco, wheat, corn, barley, rye, oats, peaches, melons, grapes, apples, plums, pears, potatoes, pines, oaks, maples, spruce, fir.

Cold belt: Mosses, lichens.

Forest belts: The Western plains and the Great Basin have not sufficient rainfall to support forests. The prairies are treeless also. Some people think the trees were burned long ago by the Indians.

The Pacific slope has a considerable belt of soft-wood, such as pine and fir. There are also pine forests stretching up into Canada from the New England Coast. The Appalachian region and part of the Central Plain is well wooded. Hard-woods, such as maple and oak, predominate.

Mexico and Central America have dense tropical forests in which are valuable stores of mahogany, rosewood, etc.

Animal life:

Hot belt: Monkey, jaguar, alligator, tarantula, parrot, humming-bird, serpents.

Warm and cool belt: Bison, antelope, wolf, coyotte, prairie-dog, bear, moose, caribou, beaver, lynx, otter, ermine, eagle, turkey, rattlesnake, domestic cattle, salmon, trout, cod, herring, oysters.

Cold belt: Reindeer, Arctic fox, Arctic hare, seal, walrus, ptarmigan.

Adaptation of animal life to environment:

Coasts: Whale, seal, cod, herring, mackerel, oysters.

Topics.

Hudson Bay Co. California in 1849-50. The first oil well.

Industries and products:

Canada: North: furs, lumber. Central: agriculture. West: mining.

New England Plateau has good water-power; is engaged in manufactures that require a high degree of intelligence and mechanical skill.

Middle and Southern Appalachian region: Steel, iron, coal, oil.

Great Central Plain: Gulf slope: cotton. Northern Ceneral States: wheat, meat, corn.

Western Plains: Stock-raising.

Pacific Highland: Gold, silver, copper.

Pacific Slope: Wheat, wine, wool.

VII. Principal Cities.

Canada: Ottawa, the capital. Quebec, Montreal, Toronto, Halifax. Locate these cities and explain why their position contributes to their importance. What are their probable industries and exports? Is there anything about the position of Quebec that might render it difficult of access at certain times of the year?

Newfoundland: St. Johns, the capital. Cod and seal products the only exports.

Topics.

Cartier, Champlain, Frontenac, Sieur de Maisonneuve, Wolf and Montcalm, Montgomery, the Cabots.

West Indies:

1. *Bahamas.*
2. *Greater Antilles:* Cuba, Jamaica, San Domingo, Puerto Rico. Largest city, Havana, in Cuba; exports, tobacco and sugar.
3. *Lesser Antilles:* Windward Islands, and Leeward Islands.

Topics.

Columbus.

Mexico: Mexico, situated on a plateau, is the capital. Vera Cruz is the principal port. The exports are gold, silver, and copper, medicinal plants, cochineal. Most of the business is in the hands of foreigners. Why? What is the reason of the lack of harbors in Mexico?

Topics.

The Atzecs, Cortes, Popocatepelt.

Central America: Guatemala, Honduras, San Salvador, British Honduras, Costa Rica. Principal city, New Guatemala.

Topics.

Panama Canal. Balboa. The earthquakes. "Mosquito Coast."

THE UNITED STATES.

I. Location.

The United States occupies the middle portion of North America, extending from the Atlantic to the Pacific Ocean and from Canada and the Great Lakes to Mexico and the Gulf of Mexico.

Zones: It occupies part of the cool and warm belts of the temperate zone.

It is composed of forty-five states, and owns besides, Alaska, the Philippines, and Puerto Rico.

(To be continued in next Monograph.)

Language in 5 B

By Charles W. Laffin and M. Leon Arnowitt, P. S. 55, Brooklyn.

(Continued from October Monograph.)

PREFIXES:

in, un = not—incorrect, insufficient, infamous, infirm, inattentive, unpin, unload, unpack, unlike, unfortunate.

By comparison at once he will tell you the meaning of "in"—"not." Ask for words having prefix "in." Use in sentences.

mis = wrong, bad—Mistake, misled, misfortune, misname, misprint, misspell, miscall, misbehave.

re = back, anew, again—renew, recall, rebuild, react, reform, refresh, remit, refit.

pro = forward—promote, proceed, produce, project, propel, progress.

pre = before—prescribe, predict, prefer, prepare, prepay, prevent, preside, premature, prefix, prejudge.

post = after—postscript, postmortem, post-entry, post-date, post-paid, postpone, postmeridian.

trans = across—transpacific, transalpine, transmit, transplant, transscribe, transport.

fore = before—forehead, forenoon, foreman, foretell, foremost, forestall.

with = against, back—withhold, withdraw, withstand, withsay.

SUFFIXES.

Taught similarly. Some prefixes and suffixes are best taught synthetically, others analytically.

The pupil finds the meaning of the syllable by comparing the differences made by it in different words.

er, ar, or = one who—baker, maker, speaker, grander, later, conductor, actor, liar, beggar.

full = full of—joyful, hopeful, lawful, artful, skillful, sheerful.

able = can, power—honorable, savable, curable.

ous = full of—dangerous, glorious, gaseous, famous, piteous.

ly = manner—friendly, swiftly, quickly, kingly, royally.

ish = like, state of—childish, reddish, blackish, English, Spanish.

hood = state of—childhood, boyhood, manhood, brotherhood, priesthood.

ship = state of—friendship, clerkship, judgeship, partnership, hardship, courtship.

ness = state of—happiness, clearness, boldness, promptness, narrowness, nearness.

less = without—blameless, moneyless, childless, friendless, homeless, faultless.

STEMS:

Stems should be taught by both analytic and synthetic methods. Make use of analogy to a tree (stem and branches).

ced, cess = to go, yield—ceded, recede, proceed, secede, ancestry.

scribe, script = to write—scribble, subscribe, scribe, postscript, script, scriptures.

dic, dict = to say—indicate, dictation, predict, edict, interdict.

port = to carry—transport, portable, support, export, import, report, porter.

duc, duct = to lead—ductibility, duct, conduct, deduct, introduction.

IRREGULAR VERBS:

For presentation see Maxwell's "First Book in English," page 157.

An excellent method to teach the correct use of verbs is to bring the verb to life. A real object lesson is the best thing. Let the children do the talking as much as possible. Suppose the verb "throw" is to be taught. Have a ball and throw it to one of the pupils. "What did I do?" "You threw the ball." "Throw it to your neighbor. What has he done?" "He has thrown the ball." "You will throw the ball to me. What will you do?" "I will throw, etc." Use the verb "throw" in all its forms taking care to frame the questions so that you will be sure to get the expected answer. Instead of asking "What did you do?" and getting any answer, as "I pitched or gave him the ball," ask "What did you throw?"

CORRECT—"Chuck it away, fire it away, knock it away."

Select such irregular verbs as are used incorrectly by your pupils.

1. eat (ate, eaten).
2. go (went, gone).
3. throw (throw, threw, correct—chuck it, fire it, knock it).
4. be (is, was, been).
5. break (broke, broken).
6. tear (tore, torn).
7. choose (chose, chosen).
8. get (got, gotten, correct—"I have got," etc.).
9. begin (began, begun).
10. blow (blew, blown).
12. burst (correct "busted").
12. forget (forgot, forgotten).
13. think (thought).

Distinguish bring, carry and fetch:

Bring means take along in coming.

Carry means take along in going

Fetch means to go, get and bring.

15. drown (drowned).
16. take (taken).
17. steal (stole, stolen).
18. have (had).
19. write.
20. speak.

PREPOSITIONS:

Drill on those frequently misused.

Give sentences in which the correct use of the preposition is evident, and where they can see the difference immediately, as:

The papers are between the two books.

The papers are among the three books.

The papers are among the books.

John is between James and Charles.

John is among the five boys.

When is between used? Among?

1. in, into.
2. between, among.
3. off, of, from.
4. with, by.
5. beside, besides.
6. on and to.

1. In, into. In denotes presence, inside of. Into denotes entrance, from outside to inside.

I walked into the house.

Five eggs were in the nest when the mother bird flew into it.

He dropped one oar in the water.

He jumped into the water.

The troops marched into the city.

He jumped into a cab.

2. Between, among. Between—two. Among—many.

Between you and me, etc.

Among us three, etc.

A small table stands between the two windows.

A small table stands among the flowers.

Peace was made between Russia and Japan.

The nest was between two branches in the tree.

He divided the apple between two boys.

He divided the apple among four boys.

3. Off, from, of.

I took the book off the table.

I took the book from him.

Take your hands from (off) the table.

Correct.—I borrowed it off him.

I took it off of him, etc.

I took it off him.

The difference of the two men.

He died from the fever.

4. With, by. With means refers to. By, refers to agent.

The soil was prepared by the gardener with his spade.

Two houses were struck by lightning.

Many of the whites were killed by the Indians.

The house was opened by the man with his key.

Correct—I stayed by my aunt's.

5. beside, besides. Beside—at side of. Besides—in addition to.

Besides my mother, my father was present.

I sat beside the glowing grate.

Besides the house, he sold the furniture.
The lady sat down beside the child.
Besides the child, was a lady.
Besides the smoke, there was a fire.

6. On and to.

Correct—I am going on a picnic.
It is deposited on his credit.
He was on to the trick.
He fell on the floor below.

IRREGULAR PLURALS:

a. Most nouns add s or es to singular to form plural: book, day, sash, peach, sponge, hour, hiss, latch, cupful, safe, tax, class.

I. Nouns ending in (o).

a. Some add (s) to form plural: solo, folio, stilleto, grotto, portico.

b. Others add (es): buffalo, potato, domino, calico, mosquito, volcano, echo, hero, tornado, negro, cargo, tomato.

II. Nouns ending in (y) preceded by a vowel form their plurals in regular way as: valley, valleys.

Nouns ending in (y) preceded by a consonant change y to (i) and add (es) to form the plural, as: duty, baby, fairy, spy, lady, copy, sky, fly, cry.

III. Most nouns ending in (f) or (fe) form their plurals regularly as: chief, hoof, roof, proof, scarf.

Some change the (f) into (v) and the plural form ends in (ves): wharf, wharves; half, halves; shelf, shelves.

A few nouns have the same form for the singular and plural as: deer, sheep, trout, swine, cod, mackerel.

Some nouns used only in plural: scissors, scales, tweezers, tongs, shears, measles, breeches, trousers, drawers. Why?

Some nouns have two plurals differing in meaning:

Brother—brothers (by blood); brethren (of the same society).
Cannon—cannons (individuals); cannon (in a collective sense).
Die—dies (stamps for coining); dice (cubes for gambling).
Fish—fishes (individuals); fish (collection).
Foot—feet (parts of the body); foot (foot-soldiers).
Genius—geniuses (men of genius); genii (spirits).
Head—heads (parts of the body); head (of cattle).
Horse—horses (animals); horse (horse-soldiers).
Penny—pennies (distinct coins); pence (quantity in value).
Sail—sails (pieces of canvas); sail (vessels).
Shot—shots (number of times fired); shot (number of balls).

IRREGULAR POSSESSIVES:

I. In the singular the possessive is formed by adding ('s) to the nominative as: John, John's; man, man's.

Not Absolute.

When too many hissing sounds would result the (') alone is added: Moses' law; for conscience' sake; Burns' poems.

II. In the plural when the noun ends in (s) the (') alone is added: ladies' gloves; birds' eggs; emigrants' hopes.

In compound nouns the sign of the possessive is added to the last word only—*e. g.:*

A mother-in-law's right is undisputed.

The dress was sold at Lord & Taylor's store.

COMPARISON OF ADJECTIVES:

I. Regular:

Positive.	Comparative.	Superlative.
bright	er	est
happy	happier	happiest
able	abler	ablest
mellow	mellower	mellowest

If positive ends in (y) preceded by a consonant (y) is changed to (i) before (er) and (est): pretty, lovely, happy, windy.

II. Adjectives of more than two syllables usually form comparative and superlative degrees by prefixing more, most, less, least, to adjective: beautiful, more, most; cheerful, less, least; fortunate; careful; correct (more braver) (more larger), etc.

III. Irregular: good, better, best; bad, worse, worst; little, less, least; much, more, most; many, more, most; late, later or latter, latest or last; far, farther, farthest.

Drill on form, United States is larger than all the *other* countries of North America.

Brutus was the noblest *of them all,* see Maxwell's "Advanced English Grammar," page 137.

PUNCTUATION:

I. Punctuation is the method of indicating to the eye by means of points:

1. The conclusion of a sentence.
2. The elements of a sentence to be joined in meaning.
3. Pauses required in reading.

In Simple Sentences—A very long subject is separated from the predicate by a comma, as: "The fact of the teacher's having overlooked the fault, made the pupil more careless than before."

Three or more words used in the same grammatical relation, following one another, must be separated by commas; and the last word, if a subject noun, must also be separated from the verb by a comma: Ex.—Poetry, music, and painting, are fine arts.

David was a brave, wise, and pious prince.

II. When two words of the same part of speech are connected by a conjunction a comma is not inserted.

His father and mother are at home.

Insert a comma when conjunction is omitted.

Reason, passion, answer one great aim.

When words connected by a conjunction follow in successive pairs, a comma should be inserted after each pair.

Ex.—Interest and ambition, honor and shame, friendship and enmity, all influence men.

The Verb

By Edward W. Sullivan, P. S. 18, Brooklyn.

Words should be classified according to their functions. This is as true of the verb as of any other part of speech. Yet it seems that the average pupil's knowledge of it is based more on familiar use than on the inductive finding of its functions. In fact it is hard to say just when that lesson is given in the grades which marks off the verb from the noun or adjective and gives it individuality. A pupil may grow to appreciate the verb's peculiar force during all the time he is studying its properties; but unless that peculiar force is thoroughly perceived at the outset its properties cannot be studied to the fullest advantage. Therefore it is contended that there ought to be given at a very definite time that one lesson on the verb wherein its one universal function is taught.

In giving lesson I, it is presumed that the pupil knows noun, quality-word and declarative sentence at least, has had drill in dividing sentences into their subjects and predicates and in constructing sentences in which action, quality, condition or existence is asserted of the subject. It is not presumed that he has been given a list of verbs whose principal parts he has learned nor that he has been told that be, am, is, etc., are "always verbs." The first he may make out for his own convenience, and the second he will learn in due time.

Lesson I.—Sentences on Board.

1. The boy was very kind.
2. Charles made a sled.
3. Mr. Brown will be a doctor.
4. Ships were on the ocean.
5. The day has been pleasant.
6. Has the evening been cool?
7. The boys are clerks.
8. Were the girls students?
9. Have the boys been rude?
10. Harry ran home.

Let each sentence be read and divided into its subject and predicate.

Teacher—What is told of "the boy" in sentence 1?

Pupil—Quality, quality of kindness.

Teacher—What word or words tell this quality?

Pupil—Kind. (Pupil invariably answers thus.)

Teacher will have him read the sentence and leave out "was."

Teacher—The boy very kind. What does that tell?

Pupil—Nothing.

Teacher—Read the sentence with "was."

Pupil reads.

Teacher—If nothing is told without "was," what is the telling word in the sentence?

Pupil—Was. (Underscore twice.)

Teacher—What is told of Charles, sentence 2?

Pupil—Action. Act of making.

Teacher—What word tells this act?

Pupil—Made. (Let the pupil read and leave out the word "made." Underscore.)

Teacher—What is told of Mr. Brown, sentence 3?

Pupil—Condition. (What he is.)

Teacher—What word tells his condition?

Pupil—Doctor. (Let the pupil make the mistake. Proceed as in sentence 1, and he will so see for himself and reply "will be." Underscore.)

Teacher—What is told of the subject in sentence 4?

Pupil—Existence.

Teacher—What word tells the existence?

Pupil—Were. (Let the pupil read and leave out were to confirm his first reply. Underscore.)

In the same way it will be shown that in sentence 5 the quality of pleasantness is told of the subject, and that "has been" tells it; in sentence 6, that the quality of coolness is told of the subject, and that "has been" tells it; in sentence 7, that the condition of being clerks is told of the subject and that "are" tells it; in sentence 8, that condition of students is told of the subject and that "were" tells it; in sentence 9, that the quality of rudeness is told and that "have been" tells it, and in sentence 10, that action of running is told of the subject and that "ran" tells it.

Let the teacher now resume from 1 to 10.

Teacher—What word or words in sentence 1 tells the quality of the subject?

Pupil—Was.

Teacher—In sentence 2 what word or words tell the action of the subject?

Pupil—Made. (Proceed in like manner to 10.)

Teacher—The word, assert, means tell. A word that tells (or asserts) something of the subject is called a verb. (Pupils repeat; write on board. Pupils copy in note book.)

Teacher—In sentence 1 what is the verb?

Pupil—Was, because it tells (or asserts) quality of the subject. (Proceed in like manner to 10.)

In subsequent lessons classification should continue until all the verbs of ordinary speech have been classified as verbs.

LESSON II.—Verb acc. to attribute.

Teacher—In sentence 1, what is told of the subject?

Pupil—Quality of kindness.

Teacher—To whom does this quality belong?

Pupil—To the subject, boy.

Teacher—In sentence 2, to whom does the action belong. (Whose action is it?)

Pupil—To the subject, Charles. (Proceed in like manner to 10.)

Teacher—That which belongs to a person or thing is called an attribute of that person or thing. "Sweetness" belongs to flowers and is an attribute of flowers. (Flowers are sweet.) In sentence 2, the action is an attribute of the subject because it belongs to the subject.

Teacher—What attribute is told of the subject in sentence 3?

Pupil—Condition of being a doctor. (This condition is an attribute of Mr. Brown because it belongs to him and not to Mr. Smith. Let the pupil proceed to name the attribute told of the subject in each sentence.)

Teacher—In sentence 1, what word expresses the attribute of the subject, that is shows that it is the quality of kindness and not of cruelty?

Pupil—Kind.

Teacher—What word (asserts or tells) the quality?

Pupil—Was.

Teacher—In sentence 2, what word expresses the attribute of the subject?

Pupil—Made.

Teacher—Word asserts the attribute?

Pupil—Made, also.

The teacher will continue to show that in sentence 3, "doctor" expresses the attribute but that "will be" asserts it; in sentence 4, that "were" expresses and asserts the attribute; in sentence 5, "pleasant" expresses the attribute but that "has been" asserts it; in sentence 6, that "cool" expresses but that "has been" asserts it; in sentence 7, that "clerks" expresses but that "are" asserts it; in sentence 8, that "students" expresses but that "were" asserts it; in sentence 9, that "rude" expresses but that "have been" asserts it, and in sentence 10, that "ran" expresses and also asserts the attribute of the subject.

The teacher resumes from 1 to 10 to show that some verbs express and also assert the attribute of the subject, and that others only assert the atributes.

Teacher—A verb that expresses the subject attribute is called an attribute verb. (Pupil repeats.) (Note book.)

Teacher—A verb that does not express the subject's attribute but only joins the word that does express it with subject is called a Copulative Verb. (Pupil repeat. Note book.)

Other lessons in classification should follow.

Lesson III.—The Verb, According to Form.

Usually teachers have little difficulty in teaching this lesson, so it is omitted here. It is in order at this time to write the principal parts of the irregular verbs in note books.

Lesson IV.—Verb, According to Receiver.

Sentences on Board.

1. James *saws* wood.
2. Mary sings sweetly.
3. The apples are sour.
4. Frank has written a letter.
5. The house was built by Mr. Smith.

Teacher—In sentence 1, what is the verb?

Pupil—Saws.

Teacher—What does it tell of the subject?

Pupil—Action, act of sawing.

Teacher—Who performs the act?

Pupil—Subject, James.

Teacher—What receives the act.

R

Pupil—Object, wood. (Put letter R over "wood.")

Teacher—In sentence 2, what is the verb?

Pupil—Sings.

Teacher—Who performs the act asserted by the verb?

Pupil—Subject, Mary.

Teacher—What receives the act?

Pupil—Nothing. (Pupil sees there is no receiver.)

In like manner show that in sentence 3, there being no action, there can be no receiver, that in sentence 4, the object "letter" is the receiver for the action, and that in sentence 5, the subject "house" is the receiver of the action.

The teacher will resume.

Teacher—What verbs in these sentences did require receivers for their actions?

Pupil—"Saws," sentence 1, "has written," sentence 4, and "was built," sentence 5.

Teacher—A verb that requires a receiver for its action is a Transitive Verb. (Copy board. Pupil repeats. Note book.)

Teacher—What verbs in these sentences did not require a receiver for their action?

Pupil—"Sings," sentence 2, and "are," sentence 3.

Teacher—A verb that does not require a receiver for its action is an Intransitive Verb. (Copy on board. Pupil repeats. Note book.)

Continue classification in subsequent lessons until the ordinary verbs have been classified. Avoid in these first lessons such verbs as are susceptible of being classified as either transitive or intransitive.

LESSON V.—Property of Verb, Voice.

LESSON VI.—Property of Verb, Mode.

Sentences on board.

1. The earth is round.
2. Give us this day our daily bread.
3. I wish he were here.
4. He may go.
5. Should he go, I will go too.
6. Mary can spin yarn.
7. Read the lesson carefully.
8. James found a ball.
9. Be he ever so large, yet I will not fear him.
10. You may sing for us.

The teacher will have the pupil name the attribute asserted of the subject in each sentence.

Teacher—How is the quality for roundness (or the attribute) asserted of the subject in sentence 1?

Pupil—As a fact. (Write "fact" after sentence 1.)

Teacher—How is the action (attribute) asserted of subject in sentence 2?

Pupil—As an entreaty. (Write "entreaty" after the sentence.)

Teacher—How is the attribute (existence) asserted of the subject in the clause "he were here," sentence 3?

Pupil—As a wish unfulfilled. (Write wish, etc., after.)

Teacher—How is the attribute (action) asserted of the subject in sentence 4?

Pupil—As a possibility or permission. (Write, etc.)

Teacher—In sentence 5, the clause?

Pupil—As a doubtful possibility. (Write, etc.)

Teacher—In sentence 6?

Pupil—As ability. (Write, etc.)

Teacher—In sentence 7?

Pupil—As a command. (Write, etc.)

Teacher—In sentence 8?

Pupil—As a fact. (Write, etc.)

Teacher—In sentence 9?

Pupil—As a condition contrary to fact. (Write, etc.)

Teacher—In sentence 10?

Pupil—As a permission. (Write, etc.)

Teacher—How is the attribute asserted in sentence 1.

Pupil—As a fact. Proceed likewise through the 10 resuming.

Teacher—That power of property of the verb which shows how the attribute is asserted of the subject is called Mode. (Write on board. Pupils repeat.)

Teacher—A verb that asserts the attribute as a fact has Indicative Mode. (Copy.)

Teacher—Select the verb in these sentences having indicative mode?

Pupil—Is, sentence 1, wish, sentence 3, will go, sentence 5, found, sentence 8, will fear, sentence 9.

Teacher—A verb that asserts the attribute of the subject as a command or an entreaty has Imperative Mode. (Have pupil select those having imperative mode; give sentence 2, and read sentence 7.)

Teacher—A verb that asserts the attribute as a permission, possibility, duty or obligation has Potential Mode. (Copy, etc.)

Have the pupil again select those verbs having Potential Mode; "may go," sentence 4, "can spin," sentence 6, "may sing," sentence 10.

Teacher—A verb that asserts the attribute as a doubtful possibility, a supposition contrary to fact, etc., has Subjective Mode. Have pupil select verbs having Subjective Mode; "were," sentence 3, "should go," sentence 5, "be," sentence 9.

LESSON VII.—Tense. LESSON VIII.—Person and Number.

The Verb. (A word that tells, or asserts, something is a verb.)

- Kinds
  - 1. According to Attribute.
    - Attributive.
    - Copulative.
  - 2. According to Form.
    - Regular.
    - Irregular.
  - 3. According to Object.
    - Transitive.
    - Intransitive.
- Properties
  - 1. Voice.
  - 2. Mode.
    - 1. Indicative.
    - 2. Imperative.
    - 3. Potential.
    - 4. Subjunctive.
  - 3. Sense.
  - 4. Person and Number.

Term Plan in History—6 A Grade

BY M. T. CURRAN.

First Week.

COLONIAL LIFE.

a. Industries and occupations of different sections.
b. Population.
c. Government.
d. Education.
e. Manners and customs.
f. European idea and treatment of a colony.
g. The feelings, ideas and needs of the colonists as to
*a*¹ Revenue Laws.
*b*¹ Need of Union.

DETAILS.

First Week.

COLONIAL LIFE.

a. Industries and occupations of the different sections.

The colonists were engaged in three great occupations: agriculture, manufacture and commerce.

New England Industries.—The fishing and shipbuilding industries were most prosperous in New England.

Middle and Southern Colonies.—New York led the colonies in the fur trade, farming and manufacturing.

Farming of a peculiar kind belonged to the southern colonies. Little attention given to manufacturing, shipbuilding and trade.

b. Population.—The entire population, white man and black, freeman and slave, was not so great as that of New York or Philadelphia or Chicago in our time.

c. Governments.—Provincial or royal: Provincial, New Hampshire, New York, New Jersey, Virginia, North Carolina, South Carolina, Georgia, Charter, Connecticut, Massachusetts, Rhode Island, Pennsylvania, Delaware; Proprietary, Maryland.

Provincial or Royal Gov't.—The king appointed the governors and instructed them as to the way in which he wished his colonies to be ruled.

Charter Gov't.—Were written contracts between the king and the colonists, defining the share each should have in the government, and were not to be changed without the consent of both parties.

Proprietary.—Some individual, called the proprietary, was granted a great tract of land by the king, and, under a royal charter, was given power to sell the land to settlers, establish government, and appoint the governors of his colony.

d. Education.—In New England the schoolhouse came next after the church and the blockhouse. New England had a school for every town, and a college for every colony. South of Pennsylvania the public schools were fewer in number, because the people lived far apart. No southern college was established outside of Virginia until after the War of Independence.

e. Manners and Customs.—The colonists were very much in earnest about their religious ideas. At some time, in most colonies, all persons were compelled to attend church on Sunday.

Laws were stricter and punishment more severe in colonial times than now.

There existed classes in those days. The differences between classes were shown in many ways. The lower classes were expected to be very polite and respectful to the upper. At church people were often seated according to their social rank.

Social rank was partly shown in dress. The slaves wore little, and that little of the cheapest kind. The poorer class of whites dressed plainly. The middle class dressed more comfortably, while the men and women of the highest class tried in every way to show their standing by their clothing.

They had many pastimes. In the evenings they gathered before the great fireplace, and engaged in story-telling, nut cracking, or to take part in some kind of "bee." In the daytime, spinning, sewing, and quilting bees. In the southern colonies dancing was a popular amusement. Sleighing and skating parties in New England and New York.

f. European ideas and treatment of a colony.

All European nations, up to this time, had looked upon their colonies as being for the benefit of the mother countries. England was more kind to her colonies than any other nation, but she, too, managed them, especially in matters of trade, for her own advantage. This was done in two ways: *first,* by not allowing colonists to trade with foreign nations, except under laws made by the mother country; *second,* by permitting the colonies to manufacture only those articles which were not made in England.

Second Week.

Otis and Writs of Assistance.
The Stamp Act—1765. Repealed 1766.
Patrick Henry—in Virginia.
Samuel Adams—Committees of Correspondence.
First Continental Congress. Results.

Second Week.

Otis and Writs of Assistance, 1761.

There was an attempt made on the part of England to break up smuggling in America. The custom-house officers in Boston were ordered to use general search warrants, called "writs of assistance," to discover smuggled goods. With these documents the officers could enter any man's house at any time, without giving a reason, and search from cellar to garret. James Otis, a prominent New England lawyer, resigned his royal office to plead the cause of the colonists. He said: "A man's house is his castle, and while he is quiet, is as well guarded as a prince in his castle." No more writs were used in Boston.

The Stamp Act was a law which proposed to take money directly from the pockets of the people, because by its terms all legal documents, bills of merchandise, etc., had to be on stamped paper. The cost of this paper varied from one cent to fifty dollars, according to the value of the stamp printed on it. The colonists took alarm, and declared that "taxation without representation is tyranny." It was accordingly repealed in 1766.

Samuel Adams—Committees of Correspondence.

In 1772 the Boston town meeting, on motion of Samuel Adams, appointed a committee to correspond with other Massachusetts towns. Adams's plan was to keep the people of that colony united by letting the different towns know what was going on in Boston. Soon other assemblies followed this example, and thus all parts of the country came into close touch.

First Continental Congress.—Patrick Henry, the orator of Virginia.

In 1774 the first continental congress met at Philadelphia. It was the greatest meeting the Americans yet held. Representatives came from all the colonies except Georgia. Patrick Henry and John Adams, the two great orators, listened to each other for some time. They issued:

1. An address to the people of the colonies.
2. An address to the Canadians.
3. An address to the people of Great Britain.
4. An address to the king.
5. A declaration of rights.

Third Week.

George III.

Gov't in England.—Parliament: House of Lords, House of Commons.

Political Parties.—Whigs: Chas. Fox, Edmund Burke, favored Americans; Lord North, Tory, favored king; Pitt, Lord Chatham, New Whig, favored Americans.

Third Week.

Geo. III.—King of England at this time; a stubborn, thick-headed man. He was resolved to rule according to his own will.

Government in England.

Parliament—House of Lords and House of Commons. Compare with our Congress.

Political parties in England at this time were the Whigs and Tories.

The Whigs favored the Americans. Notable among them was Chas. Fox and Edmund Burke, who favored the repeal of the Stamp Act.

Lord Chatham—Wm. Pitt—a great Whig leader. He became a great favorite with the colonists. When King Geo. III. and his friends heard about the Congress they were more determined than ever to make America submit. On the other hand, the English friends of the colonies were also more active. Pitt tried to have British troops removed from Boston. Edmund Burke also made a powerful plea for conciliation, but all in vain.

Lord North—a Tory and friend of King Geo. III. He was Prime Minister to Geo. III., and at the beginning of the struggle declared that "there must always be one tax to keep up the right."

Fourth Week.

THE REVOLUTION.

1. Causes.—Remote. Direct. Meaning of each cause.
2. Causes.—As enumerated in Declaration of Independence.

Fourth Week.

THE REVOLUTION.

1. Causes—Remote. Direct.

Remote.—1. English treatment. 2. Navigation acts. 3. Laws of trade and manufacture.

Direct.—1. Taxation without representation. 2. Writs of assistance. 3. Stamp act, 1765. 4. Boston tea party. 5. Boston port bill. 6. Boston massacre. 7. Climax reached.

Causes as enumerated in the Declaration of Independence.

a. For quartering large bodies of armed troops among us.

b. For protecting them, by mock trial, from punishment for any murders which they should commit on the inhabitants of these States.

c. For cutting off our trade with all parts of the world.

d. For imposing taxes on us without our consent.

e. For depriving us, in many cases, of the benefits of trial by jury, etc.

Fifth Week.

General Gage.
Preparation for war.
Commencement of the struggle.

Fifth Week.

General Gage, who had been stationed at Boston, found it no easy task to enforce the king's commands.

Seeing that the people were gathering stores and cannon he attempted to destroy the stores, and so brought on the battle of Lexington and Concord, which opened the War for Independence.

Sixth Week.

Lexington, Concord. Effect.
Second Continental Congress.
Battle of Bunker Hill.
George Washington.
Americans driven from Canada, and British from Boston.

Sixth Week.

Lexington and Concord. Effect. Began on 19th of April, 1775. Pitcairn commanded the British. When he saw the minute men on the green he commanded them to disperse—not being obeyed he ordered his men to fire. A few minute men were killed, and the British proceeded to Concord. They destroyed the stores here, and on their way back to Boston were met from behind every fence, tree, hedge and barnyard wall, by a deadly fire from the minute men. They retreated and would have been captured if not reënforced at Lexington. This battle thoroughly aroused the patriots. When the news reached the Green Mountain Boys of Vermont they took up arms, and, under Ethan Allen, captured Ticonderoga the next month.

Second Continental Congress met at Philadelphia, 1775. It decided to raise an army, and it also appointed Geo. Washington commander-in-chief. Washington accepted the trust and started for Boston. He had not ridden twenty miles from Philadelphia when he was met by the news of Bunker Hill.

The battle was a vigorous one.* The British were driven back three times, but the fourth attack, the Americans fell short of ammunition and had to surrender. It taught the British that the Americans would fight, and it proved to the Americans that the British regulars were not invincible.

Washington takes command July 3, 1775, at Cambridge. He found an untrained body of men, few in number, and without ammunition and supplies, but with his indomitable will and sublime patience he trained and disciplined his army and gathered supplies and provisions.

He besieged the British in Boston, and in March, 1776, they left the city by water.

The Americans made an unsuccessful attempt to gain a foothold in Canada, and were driven out by the British.

Seventh Week.

Attack on Charleston.
Richard Henry Lee.
Thomas Jefferson and Dec. of Ind., also Art. of Conf. Date.
Battle of Long Island. Result.
Nathan Hale, the patriot spy.
Capture of Forts Lee and Washington.
Washington's Retreat.
Capture of Gen. Chas. Lee.

Seventh Week.

Attack on Charleston.

The British now moved south by water and made an attack on Charleston, South Carolina, where Colonel Moultrie, in his fort of palmetto logs, gave them a warm reception. The British loss was so great that the Carolinas were not troubled again for two years.

Thomas Jefferson and Declaration of Independence. Richard Henry Lee.

Richard Henry Lee, of Virginia, introduced in Congress his famous resolution, in June, 1776, "that these United Colonies are, and of right ought to be, free and independent states." Some of the colonies were not yet ready, so the question was postponed.

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*Read to the class the poem, "Grandmother's Story of Bunker Hill."

But a committee consisting of Thomas Jefferson, John Adams, Benj. Franklin, Roger Sherman and Robt. R. Livingston was appointed to draw up a Declaration of Independence. Jefferson wrote it, and on July 4, 1776, the "Liberty Bell" rang out Liberty to all the land and all its inhabitants. But the people had yet to establish their independence by force of arms.

The Articles of Confederation binding the colonies to union also came into effect at this time.

Battle of Long Island, August 27, 1776.

British were at Staten Island under Howe. Washington stationed his army under Putnam at Brooklyn. Howe crossed to Long Island and marched his army in three divisions. Army were greatly superior in numbers to the Americans, and were better armed and trained. The Americans fought bravely, but without avail. Many were killed or taken prisoners.

Washington, on the 29th took advantage of a dense fog, skillfully withdrew his forces to New York.

Howe immediately followed, but Washington retreated northward.

Forts Lee and Washington on the opposite side of the Hudson were also captured.

This was a dreadful series of misfortunes, and many of the patriots became disheartened.

General Lee's Capture.

Gen. Chas. Lee, who had been left with a detachment near the Hudson, was commanded to follow the main army, disobeyed Washington and was captured and taken prisoner.

Captain Nathan Hale.

A short time before the battle of Long Island, Washington sent Capt. Nathan Hale to the British camp to obtain, if possible, some knowledge of the condition of the enemy. On his return he was captured, and taken before Howe, who, without even the form of a trial, ordered him to be hanged as a spy. He died a patriot hero, saying, "I only regret that I have but one life to lose for my country." He was but twenty-one years of age. The tree on which he was hung is near the present intersection of Market street and East Broadway, in New York City.

Eighth Week.

Gloomy period.
Battle of Trenton.
Robert Morris, assistance to.
Washington.
Lafayette.
De Kalb.
Pulaski.
Kosciusko.

Eighth Week.

Gloomy Period.

At this time a deep gloom pervaded all classes of the Americans. They saw no other prospect than a complete failure of their treasured scheme of liberty. But Washington determined to inspire fresh hopes in the minds of his countrymen.

Battle of Trenton.

The Hessians (troops hired by the British) were stationed at Trenton. Washington quickly saw his opportunity. It was Christmas night, and these Hessians had been feasting and drinking all the day. Washington crossed the Delaware, and on the morning of the 26th surprised the enemy. It was too late. The sleepy Hessians gave a few volleys, made a wild charge, and all was over. Many were killed. Washington lost only four men. This was a great victory for the Americans.

Robt. Morris—Assistance to Washington.

Washington's army had received no pay, and what was worse, Washington had no money to pay them. He wrote to Robt. Morris, a wealthy patriot of Philadelphia. He collected a large sum of money and sent it to Washington.

The soldiers were paid, and they were ready to fight again.

Lafayette, De Kalb, Pulaski, Kosciusko.

Washington's work had raised him and the American cause in the opinion of foreign nations. Lafayette, with Baron De Kalb and other officers, now came from France and gave their services. Pulaski and Kosciusko, brave Polish soldiers, had already joined the patriot army.

Ninth Week.

Winter at Valley Forge.

During winter of 1777-8, Washington's troops were quartered in huts at Valley Forge, not far from Philadelphia. The patriot soldiers suffered greatly for want of food, clothing and shelter.

Burgoyne's Invasion.

Stirring events, had by this time, occurred in the north. Gen. Burgoyne, with an army of ten thousand British and German troops, Canadians and Indians, had invaded New York by way of Lake Champlain. They took Crown Point and Ticonderoga. Burgoyne advanced to Fort Edward, but his march was delayed by Gen. Schuyler, who had command of the American forces. By the time Burgoyne reached Fort Edward he found himself in need of supplies. The failure of Howe to move up the Hudson placed Gen. Burgoyne in a dangerous position.

Battle of Saratoga.

At last, compelled to fight or surrender, Burgoyne moved forward to attack the Americans. He was completely surrounded, and with no hope of aid from Gen. Howe or Clinton, surrendered his entire army to Gen. Gates, October 17, 1777.

Results.—1. Americans gained possession of an entire army, with all its arms and ammunition. 2. The French alliance.

French Alliance.—After the battle of Saratoga the government of France decided openly to take the part of the struggling colonies, and on February 6, 1778, she made a treaty of alliance with them, acknowledging their independence and agreeing to furnish them with assistance in the war with Great Britain.

Franklin as a Diplomat.

This important event had been brought about mainly through the efforts and address of Benj. Franklin, who was sent to France in 1776 for this purpose. The French government at once fitted out a fleet and sailed for America, under command of D'Estaing.

Capture of Philadelphia.

Gen. Howe resigned his command and Gen. Clinton was appointed his successor. Fearing for the safety of the army at Philadelphia, the British government ordered Clinton to proceed to New York. Accordingly Philadelphia was evacuated June 18, 1778.

Ninth Week.

Winter at Valley Forge.
Burgoyne's Invasion.
Saratoga, and surrender of.
Burgoyne—Results.
French Alliance. D'Estaing.
Franklin as a Diplomat.
Capture of Philadelphia.

Tenth Week.

Treason of Arnold.
The War on the Ocean.
Weakness of the American Navy.
John Paul Jones.

Tenth Week.

Treason of Arnold.

Benedict Arnold, who had gained so many laurels at Quebec, Fort Schuyler and Saratoga, so highly prized for his genius and gallantry as a soldier, this year (1780) deserted the patriot cause, and became a traitor. He won the complete confidence of Washington, and was finally put in command of Philadelphia, after the British left it. Here he lived very expensively and married a charming Tory lady.

But charges of misconduct were brought against him, and he was reprimanded by Washington. Eager for revenge, he requested and received the command of West Point, the key to the Hudson. He then secretly offered the British to place it in their hands for a sufficient reward. The plot failed only by the capture of Major Andrè, the British officer sent to arrange for the surrender. Arnold himself escaped, but Andrè was hanged as a spy. Later Arnold was rewarded by being made a general in the English army, but his last days were full of bitterness and sorrow.

The War on the Ocean.

Weakness of the American Navy.

The navy of Great Britain was the most powerful in the world. From the beginning of the war, Congress felt the need of a navy. Late in 1775 thirteen fast-sailing war vessels were ordered built. Paul Jones was the founder of the American navy.

John Paul Jones.

The greatest triumph on the sea came through the skill of John Paul Jones, a Scotchman by birth. In 1779, with the aid of Franklin, he obtained five vessels in France and sailed around the north of Scotland and down the eastern coast to Flamborough head. Here was fought the battle between his "Bon Homme Richard" and the English frigate "Serapis." Jones fought on till the British captain surrendered. Thus all at once the "haughty mistress of the sea" had been humbled, and the American flag was raised in the estimation of the world.

Eleventh Week.

Southern campaign.
Cornwallis.
Marion. Sumter. Capture of Charleston.
Gen. Gates. Defeat at Camden. 1780. Very great.
Gen. Greene. Winning back the South.
Battle of Cowpens. 1781.

Twelfth Week.

Greene recovers South Carolina.
Crowning Victory, Battle of Yorktown, 1781.
Results of Treaty of Paris. 1783.
Evacuation Day. November 25, 1783.
Resignation of Washington.

Thirteenth Week.

Review Rev. briefly, giving emphasis to the causes and principal campaigns; also to the part taken by New York.
Monuments and historic places.

Fourteenth Week.

Period of Internal Discord.
Shays's Rebellion.
Boundary conflicts.
Western territory.
Struggle for a permanent union.

(To be continued in next Monograph.)

Arithmetic in 6 A Grade

By Alice G. Connolly, P. S. 53, Brooklyn.

(Continued from October Monograph.)

Tenth Week.

Reduction of Decimals to Common Fractions.

Reduce .75 and write with denominator expressed.
Reduce .00875 to common fraction; change to lowest terms.
Reduce .009375 to common fraction; change to lowest terms.
Reduce .0125 to common fraction; change to lowest terms.
Reduce .005025 to common fraction; change to lowest terms.

Reduction of Common Fractions to Decimals.

Change $\frac{3}{16}$ to a decimal.
Reduce $\frac{7}{512}$ to a decimal.
Change $\frac{35}{78}$ to a decimal of 2 places.
Change $\frac{96}{121}$ to thousandths.
What decimal of a bushel is 3 quarts?
Change to decimals $\frac{5}{16}$, $\frac{9}{25}$, and $5\frac{3}{8}$ and add the results.

Reduction of Compound Fractions to Simple Fractions.

$\frac{5}{8}$ of $\frac{76}{168}$ =
$\frac{42}{126}$ of $\frac{144}{216}$ =
$\frac{1}{2}$ of $\frac{5}{6}$ of $1\frac{7}{8}$ =
$\frac{12}{35}$ of $\frac{8}{42}$ of $\frac{25}{32}$ =
$\frac{3}{6}$ of $\frac{15}{16}$ of $\frac{8}{9}$ =
$\frac{11}{14}$ of $\frac{4}{5}$ of $\frac{21}{22}$ =

Reduction of Complex Fractions to Simple Fractions.

$$\frac{\frac{5}{8}\ 5\frac{5}{6}}{\frac{3}{4}\ 2\frac{1}{3}} \qquad \frac{24\frac{1}{2}}{8\frac{1}{6}} \qquad \frac{\frac{3}{4}\times\frac{4}{5}}{4\frac{1}{2}\times\frac{5}{6}}$$

$$\frac{2\frac{1}{2} + 1\frac{1}{3}}{2\frac{1}{2} - 1\frac{1}{3}} =$$

Find the value of $\frac{\frac{5}{6} \times 3\frac{1}{5}}{2\frac{1}{9} \div \frac{25}{27}}$

$12\frac{3}{7}$ is what part of 29?

How many bottles holding 3⅔ quarts can be filled from a pail containing 14⅔ quarts?

Eleventh Week.

Percentage.

(a) To find a part of a number.
Find 4% of 350.
Find 22% of 5,475.
Find 35% of 5,280 ft.
Find 87½% of $14.40.
Find 65% of $9,200.
Find 66⅔% of 141 lb. 5 oz.

A man has a salary of $1,200, and saves 18% of it. How much does he save?

A man buys a house for $16,000 and sells it at a gain of 12½%. How much does he gain?

Tea costing 80 cents per pound was sold at a profit of 25%. Find the profit, also the selling price?

From a cask of oil containing 163 gallons, 33⅓% leaked out; how many gallons remained?

Of 1,408 sheep owned by a farmer, 6¼% were sold. How many did he sell? What per cent. of the sheep remained unsold?

Twelfth Week.

(b) To find a number when a part is given.

$9 is 5% of what number?

$45.50 is 16⅔% of what number?

$63 is 45% of what number?

$124 is 66⅔% of what number?

If 28% of a number is $12.60, what is the number?

75% of a number is 6,750; find the number.

If 20% of the people in a town are voters, and there are 236 voters, what is the population?

If a farmer sold a horse for 80% of its cost and received $152, how much did the horse cost?

If a poultry raiser set some eggs, and 15% fail to hatch, how many did he set, the number failing to hatch being 33.

A clerk drew $135 from a bank at the end of the month. This was 15% of his yearly salary. What was his salary?

A newsboy selling all his papers gained 85 cents, which was 62½% of their cost. Find the cost?

Thirteenth Week.

(c) To find what (what) part one number is of another.

Find what per cent. 25 is of 175.

Find what per cent. 85 is of 340.

Find what per cent. 54 is of 432.

$130 is what per cent. of $2,600?

$11.25 is what per cent. of $375?

$29.10 is what per cent. of $485?

A man invested $1,750 and lost $192.50. What per cent. did he lose?

A school having 275 pupils graduated 33. What per cent. were graduated?

A man had $2,500 at the beginning of a year, and gained $775. What per cent. did he gain?

Mr. James bought a house for $9,000. He paid $6,750 cash. What per cent. of his debt did he pay? What per cent. remained unpaid?

A house that costs $6,080 rents for $380 a year. What per cent. of the cost of the house is the rent?

Fourteenth Week.

Areas of Rectangles.

A piece of oil cloth is 48 yd. long. How many square yards does it contain?

A field is 14.25 rods long by 7.4 rods wide. What is its area in square rods?

Find the number of square yards in a room 18 ft. ⅓ in. long and 22½ ft. wide.

A room is 18 ft. long, 15 ft. wide. How many sq. ft. in the floor? What will it cost to carpet it at $1.75 a sq. yd.

Distances Around Rectangle.

A field is 40 rd. long and 26 rd. wide. What is the distance around it in feet?

How many yd. of picture moulding are required in a room 15 by 23 ft. if 5 yd. of wall space are taken out by doors and windows?

How many yd. of railing will be needed to go around a lot 2 rd. long and 3 wide?

Fifteenth Week.

Areas of Right-Angled Triangle.

Find the area in sq. ft. of the following right-angled triangles:

Base 3 yards, perpendicular 30 ft.

Base 4 yards 1 foot, perpendicular 2 yards 2 feet.

Base 30 inches, perpendicular 1 yard.

Base 16 inches, perpendicular 5 feet.

At $.40 a sq. yd. find the cost of paving a triangle court, its length being 105 feet and width 63 feet.

A triangular field is 80 by 40 rods. How many acres in it. How many bushels of wheat will it yield, if it yields 15 bushels to the acre?

Sixteenth Week.

Volumes.

How many cubic inches in an aquarium 16 inches long, 8½ inches wide, and 9½ inches deep?

How many cubic feet of masonry in a wall 40 feet long, 30½ feet high, and 1½ feet thick?

A cellar 24 feet by 39 feet by 6 feet is to be excavated. How much will it cost at 40 cents a load (cubic yard)?

The dimensions of a room are 14 feet, 12 feet, 9 feet. How many cubic feet of volume.

A cellar 45 feet long, 20 feet wide, and 8 feet high was excavated in 6 days. How many cubic yards were taken out each day?

A cellar 30 feet long and 18 feet wide had water in it to the height of 5 feet. How many cubic feet of water is in it?

Seventeenth Week.

Bill.

Brooklyn, N. Y., ...[Date]......

Mrs. John Doe, 47 Tenth Avenue,
To RICHARD ROE & CO., Dr.
Dry Goods Dealers, No. 10 Grand Street.

....[Year]....			
....[Date]....	½ yd. Silk	.76	38
"	¾ " "	1.25	94
"	7½ " Velour	3.50	26 25
			$27 57

Received payment,
Richard Roe & Co.

Excellent type bills and receipts are found in Teller & Brown's 1st Lesson in Business Methods, published by Rand, McNally & Co.

Eighteenth Week.

Review: Denominate numbers with practical problems. The New Walsh Arithmetics (D. C. Heath & Co.) contain various appropriate exercises for this work.

Nineteenth Week.

Review: Percentage, Bills and Statements. The Smith Arithmetics (Ginn & Co.) will furnish abundant and interesting material.

Twentieth Week.

Review: Measurements; many excellent problems are given in the Young and Jackson's Arithmetics, published by D. Appleton & Co.

Grammar—6 B

By Charles Schlivinski

TERM PLAN.

First Week.

Nouns classified.

Second Week.

Personal pronouns. Person of nouns and personal pronouns. A.S.* Two or three simple elements; phrasal verbs.

Third Week.

A.S. Impersonal "it." Number of nouns and personal pronouns.

Fourth Week.

A.S. Compound subjects. Gender of nouns and personal pronouns.

Fifth Week.

A.S. Imperative sentences.

$\left.\begin{array}{l}\text{Case}\\ \text{Declension}\end{array}\right\}$ of nouns and personal pronouns.

Sixth Week.

$\left.\begin{array}{l}\text{Case}\\ \text{Declension}\end{array}\right\}$ of nouns and personal pronouns.

A.S. Possessives as modifiers and as substantives.

Seventh Week.

Interrogative Pronouns. Relative Pronouns. A.S. Interrogative sentences, transposed order, expletive "there."

Eighth Week.

Relative Pronouns.

Ninth Week.

Adjective Pronouns. Syntax of nouns and pronouns.

Tenth Week.

Syntax and parsing of nouns and pronouns.

Eleventh Week.

Syntax and parsing of nouns and pronouns. A.S. Neuter and passive verbs, with complements. Pronoun elements.

Twelfth Week.

A.S. Appositives, objects. Adjectives.

Thirteenth Week.

A.S. Adjectives as modifiers and substantives and complements, objective complements. Adverbs.

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*A.S.—"Analysis and Synthesis."

Fourteenth Week.

A.S. Adverbs, negatives; exclamations; indirect objects. Prepositions and phrases.

Fifteenth Week.

A.S. Phrases and verbal; expletive "it." Conjunctions.

Sqq.

A.S. Compound elements and modifiers.

OUTLINE OF IMPORTANT WORK.

I—CLASSIFICATION.

	Week.
Nouns—Common and Proper.	I
Pronouns—Personal, Interrogative, Relative, Adjective.	II, VII-IX
Adjectives—Descriptive, Demonstrative, Articles.	XII
Adverbs of Time, Place, Manner, Degree.	XIII
Conjunctions—Copulative and Disjunctive.	XV

II—INFLECTION.

Declension—Nouns and Personal Pronouns (simple).	V, VI
"Who"—relative and interrogative.	VII, VIII
Gender—Personal Pronouns—3d person singular.	III
Nouns.	IV
Person—Personal Pronouns.	II
Number—Nouns—formation of plurals—rules I, II, IV-VII. (See below.)	III.
"This" and "That."	XII
Comparison—Adjectives and Adverbs.	XII
er, est; more, most.	XIII

III—SYNTAX.

Nominative Case—Subject, Predicate Complement.	
Possessive Case—Modifier, Nominative, Objective.	
Objective Case—Objects—of verb, of preposition, indirect.	
Appositives—of nominatives and objectives.	
Pronouns—Agreement.	IX-XI
Adjectives—Modifiers and Predicate Complements.	XII
Adverbs—Interrogative, Double Negatives.	XIII
Prepositions—Govern objectives and show relation.	XIV
Conjunctions—Connect words and sentence elements.	XV

IV—PHRASES.

Classified—Noun, adjective and adverbial.	XIV
Syntax—Subject, object of verb, predicate complement. Modifiers.	XIV

V—ANALYSIS AND SYNTHESIS.

Subject—Predicate.	II
Subject—Predicate—Object.	XII
Subject—Predicate—Predicate Complement.	XI

Subject—Predicate—Indirect Object—Object.	XIV
Modified Elements.	XIII, XIV
Compound Elements.	XVI-XX
Transposed Orders.	VII
Phrasal and broken Verbs.	II
Impersonal "It."	III
Expletive "It."	XV
Expletive "There."	VII
Neuter and Passive Verbs.	XI
Phrases.	XV
Interrogative Sentences.	VII
Imperative Sentences.	V
Exclamations.	XIV

Language.—6B.

Verbs: Class errors.	
Adjectives and Adverbs—distinguish.	XIII
Nouns and Adjectives—distinguish nt, nce.	XII
Pronouns—case forms.	XI
Prepositions—concord: accuse of; agree to; angry with; complain of; different from; disappointed in.	XIV
Punctuation: appositives.	
Lower Grade Work.	

I.

NOUNS CLASSIFIED: COMMON AND PROPER.

Suggested Method.

I.

Select all the nouns in these sentences: 1. London, the capital of England, is situated on the Thames River. 2. Paris is a beautiful city. 3. Longfellow is the most popular American poet.

London, England, Thames River, Paris, Longfellow, capital, city, poet.

II.

With these nouns as examples, we shall classify nouns.

Of how many cities, etc., do we understand London to be the name? Paris? Longfellow? England? Thames River? Capital? City? Poet?

III.

Give nouns that are used as the names of individuals of these classes:* poet, statesman, city, country, lake, boy.

How does the writing of these words differ from those I gave you?

We call such nouns proper nouns. (French propre = one's own.) But the words beginning with small letters are common to all of a class, so we call them common nouns.

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*Further exercise, p. 27, ex. 26, Maxwell's Grammar.

IV.

Definitions: A proper noun is a noun used as the name of an individual of a class.

A common noun is a noun used as the name of any of a class.

Exercises: Select common and proper nouns:* 1. The corner-stone of the White House was laid by General Washington. 2. Are fleets and armies necessary to a work of love? 3. The time of the singing of birds has come. 4. Charity covereth a multitude of sins. 5. I stood in Venice on the Bridge of Sighs. 6. Now came still evening on. 7. The trade of America has increased wonderfully. 8. The Romans conquered many nations. 9. The Hudson River was discovered by Henry Hudson.

1.

Exercises: What kind of nouns are these?

Give common nouns suggested by:* herd, fleet, jury, committee, society, confederation, audience, assembly, flock, family, swarm, forest, choir, drove, team, squadron.

*Further exercises, p. 27, ex. 27, Maxwell.

2.

What kind of nouns are these?

Give common nouns to name collections of: ships, soldiers, sailors, wolves, sheep, bees, thieves, buffaloes, fish, chickens.

3.

What kind of nouns are these?

Give common nouns applied to every one of a class of: persons, places, buildings, furniture.

4.

Write common nouns suggested by: Friday, July, Washington, Stockton Street, Helen, Brooklyn, California, Donald, Mississippi, England, Jungfrau, Bible.

5.

Write sentences with these words used as both common and proper nouns: father, general, professor, principal.

II.

PRONOUNS.

Drill: Select all pronouns: 1. Whom shall I send? 2. Do you ask what the birds say? 3. Which do you prefer, honor or riches. 4. Whose is the glory? 5. We found a guide who answered our questions. 6. What is that sound which now bursts on his ear? 7. As he approached the village, he met a number of people, but none whom he knew, which somewhat surprised him. 8. Many were unable to secure seats. 9. This is sold. 10. One wonders if that is true. 11. Either might have been mistaken.

*Further exercise, p. 27, ex. 28, Maxwell.

PERSONAL PRONOUNS.

Select pronouns in these two groups: 1. He requested that we should be present. 2. You are merry, my lord. 3. The deer raised its head. 4. Now I lay me down to sleep. 5. I have lost my pencil; please lend me yours till you need it yourself. 1. Who planted this old apple-tree? 2. Friends that believe will listen. 3. All are ready for war.

Compare to bring out distinction of person.

Definitions: Personal pronouns are pronouns expressing the distinction of persons.

The first person is the form denoting the person speaking.

The second person is the form denoting the person or thing spoken to.

The third person is the form denoting the person or thing spoken of.

Exercise: Select personal pronouns and tell person: 1. I am monarch of all I survey. 2. You will be surprised at it. 3. Each pupil must provide his own material. 4. He looked about him. 5. She gave them the news.

First Person.	Second Person.	Third Person.

By adding those from previous set, and asking for new sentences, collect all personal pronouns promiscuously including compound.*

PERSON OF NOUNS.

1. O death, where is thy sting? 2. 'Tis I, Hamlet the Dane. 3. Shakespeare wrote plays. 4. Little Effie shall go with me to-morrow to the green, and you'll be there, too, mother, to see me made the Queen. 5. Brothers, sisters, husbands, wives, Follow the Piper for their lives. 6. We, the people of the United States, establish this Constitution. 7. Ye sons of France, awake to glory! 8. Spirit, Bid Time and Nature gently spare The shaft we raise to them and thee. 9. Death is but the sounder sleep. 10. Friends, Romans, countrymen, Lend me your ears.

Rules: Nouns have three persons like pronouns. There is no change of form to show person.

PHRASAL VERBS† IN ANALYSIS AND SYNTHESIS.

Definitions: Analysis is the process of resolving a sentence into its parts and showing their relations to each other.

Synthesis is the process of constructing a sentence whose parts with their uses are given.

Exercise: Analyze the following: 1. The lightning flashed. 2. The thunder rolled. 3. The wind arose. 4. The rain fell. 5. The Romans built ships. 6. Battleships have armor. 7. Who wrote "The Star-spangled Banner"? 8. Britannia rules the waves. 9. Nathan Hale died a martyr to liberty. 10. A wise son maketh a glad father. 11. Are your friends coming? 12. Our revels are now ended. 13. I am reading "Ivanhoe." 14. Katharine has finished the book. 15. To-morrow I shall have finished it. 16. John has cut his finger. 17. Who will help him? 18. Father may be in his study. 19. Carrie must have been dreaming this morning. 20. You will have paid too dearly for the whistle. 21. By this time he should have learned more caution. 22. You might have told me before. 23. I did tell you. 24. A large eagle was soaring overhead. 25. Father has been writing all morning. 26. The child would play by himself for hours. 27. She would have her own ways. 28. He might have been doing something useful. 29. By to-morrow I shall have had enough of this. 30. They had had a hard day. 31. I shall be studying Latin by that time. 32. The stars are shining.* 33. Dandelions are blossoming by the road. 34. Ralph has been sick.* 35. The cry was heard by a passer-by. 36. The leaves were slowly changing.† 37. The baby has been crying. 38. He will certainly lose his place. 39. I have not seen him yet. 40. She will sometimes lose her temper. 41. We are now reading "Tom Brown's School Days." 42. Did the man in the boat see the thief? 43. May not the coat have been taken by some one else? 44. A general's orders should always be promptly obeyed. 45. Do you study Latin?

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*Compound personal pronouns are used for emphasis or as reflexives.

†Also in interrogative sentences.

III.

IMPERSONAL "IT"‡ IN ANALYSIS AND SYNTHESIS.

Exercise: 1. It rains. 2. It snows. 3. Come and trip it as you go. 4. They lord it over us. 5. They had to foot it to the station. 6. And now there came both mist and snow. And it grew wondrous cold. 7. Is it well with thee? 8. They rough it for two weeks. 9. That's an end of it. 10. It is excellent to have a giant's strength. 11. There was nothing for it but to return. 12. Is it far to London? 13. Low-born men like to lord it over their inferiors. 14. It is I. 15. I will fight it out on this line, if it takes all summer. 16. They footed it through the streets. 17. It is growing dark fast. 18. No, it was they. 19. He knew it to be me. 20. Did you see him fall?

NUMBER OF NOUNS AND PERSONAL PRONOUNS.

1. I have had playmates, I have had companions.
2. Night closed in, but still no guest arrived.
3. Birds have wonderfully keen eyes.
4. The lark's song rang in her ears.
5. They came without a moment's delay.

Definitions. The singular number is the form that denotes one.

The plural number is the form that denotes more than one.

Number is the form that denotes one or more than one.

Exercise. Tell number of nouns and pronouns:

1. They interested themselves in the sports of the children.

---

*Distinguish neuter verbs and complement.

†Note broken verb.

‡No formal name or definition necessary.

2. I conquered myself, and lost my shyness.
3. We often deceive ourselves.
4. Buy the truth and sell it not.

Write sentences containing personal pronouns of the first person, singular number; etc.

Write pronouns, first person, singular; etc.

PLURALS OF NOUNS.

RULE I.

Add s to the singular of most nouns to form the plural.

Special Cases.

1. RULE II.

rose prize ice sponge edge face page

2. RULE V.

cuff hoof gulf chief scarf proof muff safe fife belief strife

3. RULE IV.

toy turkey chimney monkey donkey Monday alley journey boy valley buoy day attorney pulley

4. RULE III.

cuckoo trio soprano two piano banjo solo lasso zero

5. RULE VIII.

pailful mouthful Brahman rose-tree footstep toothache cupful cut-throat Mussulman mouse-trap footfall footstool armful talisman German hair-brush bookbinder grandfather, etc. spoonful Norman forget-me-not fox-hunter bookkeeper major-general

RULE II.

Add es when s sound makes an additional syllable.

cross brooch thrush bench lens scratch church edge crutch latch class bush topaz fox tax brush mesh batch dish chorus pass glass grass ditch match wish rush omnibus fish ostrich dress box peach arch

RULE III.

Add es to some nouns ending in o.

buffalo(s) echo motto tornado cargo(s) flamingo negro torpedo volcano(s) hero potato mulatto domino(s) mosquito tomato calico

RULE IV.

To form plurals of singular nouns, ending in y preceded by a consonant, change y to i and add es.

lily city fly cry country fairy copy century daisy story spy dairy berry baby army mercy reply sky lady

RULE V.

To form plurals of some nouns ending in f or fe change f or fe to v and add es.

calf leaf sheaf wolf life shelf elf half loaf thief wife knife wharf self

RULE VI.

The plurals of some nouns are formed by changing the vowel sounds of the words.

man foot goose mouse woman tooth

RULE VII.

A few have different endings.

child ox

RULE VIII.

1. Compound words are generally treated as single words. (See Rule I.) 2. If first part is principal element it undergoes the change.

1.

footman Frenchman fisherman Englishman merchantman

2.

father-in-law, etc. man-of-war court-martial knight-errant hanger-on [man servant—men servants]

RULE IX.

A few nouns have the same form for singular and plural.

deer sheep trout swine fish heathen hose vermin series moose

RULE X.

Some foreign plurals are retained.

radius—radii seraph—seraphin cherub—cherubim

RULE XI.

To letters, figures and signs add 's.

Dot the i's. Cancel the 5's. Write the +'s.

NUMBER OF NOUNS

PECULIARITIES I.

If in compound adjective, the noun element is preceded by an adjective element, the noun retains the singular form.

three-story house two-mile race ten-foot rule

Certain words denoting quantity, measure, weight, etc., are used in the singular after a cardinal numeral.

brace couple dozen gross head pair score yoke

PECULIARITIES II.

Some nouns plural in form are singular in sense.

news mathematics means measles amends politics

PECULIARITIES III.

Some nouns are used only in the plural.

clothes tongs dregs vitals scissors trousers thanks riches tidings eaves

IV.

COMPOUND SUBJECTS IN ANALYSIS AND SYNTHESIS.

1. Flowers and ferns grow beside the brook. 2. The mountain and the squirrel had a quarrel. 3. She and her brother were there. 4. Copper and tin are found in England. M. p. 53.

GENDER OF NOUNS AND PERSONAL PRONOUNS.

1. Close in her covert cowered the doe; close in his, the buck. 2. The ewe lamb bleated for her mother. 3. The ram had his horns caught in the brush. 4. Every witch kept a broomstick ready behind her door. 5. His task done, the wizard departed. 6. It was really a metallic fish.

To the three classes into which all things may be divided with respect to sex, correspond three genders:

THINGS.	WORDS.
of male sex	masculine gender
of female sex	feminine gender
sexless	neuter gender

Definitions: Gender is the property of words whereby they indicate sex or lack of sex.

A noun or pronoun is of the
masculine gender if it denotes male sex; of the
feminine gender if it denotes female sex; of the
neuter gender if it denotes no sex

GENDER OF PERSONAL PRONOUNS.

1. It was not we. 2. Give me your hand. 3. Show it to them. 4. Did you see him fall? 5. She hid herself from her friends.

Rule: The personal pronouns of third person, singular number, denote gender by difference in form.

GENDER OF NOUNS.

Rules: The genders of nouns are expressed in three ways:

1. By words used only for one gender. 2. By endings,—usually to show feminine gender. 3. By prefixes or qualifying words.

1.

Material: bachelor boy sir husband son father gentleman king monk nephew uncle papa stallion maid girl madam wife daughter mother lady queen nun niece aunt mamma mare brother drake buck heart ram stag wizard lad bullock gander earl man Marion sister duck doe roe ewe hind witch lass heifer goose countess woman Marian and numerous neuter nouns.

2.

a. widow widower

b. ess is added to the masculine to form the feminine.

baroness Jewess princess countess lioness prophetess heiress priestess giantess hostess shepherdess patroness *c.* Frequently with other changes.

huntress tigress empress negress goddess waitress governess idolatress benefactress abbess marchioness sorceress enchantress duchess mistress

d. These should usually be avoided:

poetess authoress actress traitress lecturess songstress instructress

e. Other endings are sometimes used:

heroine czarina Pauline sultana Augusta Josephine

3.

man servant maid servant he goat she goat cock sparrow hen sparrow peacock peahen bull elephant cow elephant man teacher woman teacher

Exercise: 1. We learned the ways of the fish, the birds, the clouds, the flowers. 2. Can a leopard change his spots? 3. The heifer rubbed her nose against the bars. 4. The goose had wandered from her companions. 5. The hind knew the dogs to be her mortal enemies. 6. The duck was pluming her feathers after her swim. 7. Leaving the boatmen at the camp, I spent the greater part of the night in the very heart of a jungle. 8. Temperance and labor are the two best physicians of man. 9. Though Grandfather was old and gray-haired, yet his heart leaped with joy whenever little Alice came fluttering, like a butterfly, into the room. 10. This tree stood in the centre of an ancient wood. 11. The child was unconscious of its danger. 12. The tiger steals silently on his prey. 13. The hare popped out from a furze brake, and ran for her life. 14. Spring hangs her infant blossoms on the tree. 15. The sun now rose upon the right; out of the sea came he. 16. The sun sheds his beams on rich and poor alike. 17. The moon has hid her face behind a cloud. 18. Even a fool, when he holds his peace, is counted wise.

From preceding sentences, following conclusions may be reached:—

*1. Some nouns do not denote the sex. *2. The personal pronouns of the third person, singular number, indicate gender. 3. Young children are sometimes treated as if sexless. 4 Animals are frequently so treated. 5. Names of animals that do not indicate gender are often considered as masculine or feminine according to qualities animals are supposed to have. 6. Likewise with neuter nouns. They are then personified.

DRILL.

Personify as masculine nouns:

time war winter electricity

Personify as feminine nouns:

ship earth night liberty moon

Tell gender:

1. The waves rush in on every side. 2. Grandfather's chair stood by the fireside. 3. The stranger shook his head mournfully. 4. He shook his head, shouldered the rusty firelock, and with a heart full of trouble and anxiety turned his steps homeward. 5. Dark lightning flashed from Roderick's eye. 6. When the rock was hid by the surge's swell, The mariners heard the warning bell. 7. The rude forefathers of the hamlet sleep.

(To be continued in next Monograph.)

*When a noun may be either masculine or feminine, it is usually considered masculine.

Plan Book in Mathematics for the 7 A Grade, According to the Revised Course

By Ella K. Jelliffe, P. S. 70, Brooklyn.

(Continued from October Monograph.)

7 A

Constructive and Inventional Exercises.

Use the first fifteen of the geometrical problems in the syllabus:

CONSTRUCTIVE EXERCISES. PROBLEMS.

Each pupil should have a graduated ruler with straight edge, a protractor, a right triangle and dividers. All drawings should be made neatly and accurately. Technical terms should be explained by the teacher. Definitions need not be memorized, but pupils should be required to make accurate use of technical terms.

STRAIGHT LINES.

1 Draw several lines through a point. How many lines can be drawn through a point? Draw a line through two points. How many lines can be drawn through two points? How many points determine a straight line?

NOTE.—The word LINE means a STRAIGHT LINE.

2 Two lines can intersect in how many points? Three lines? Four lines? Draw three lines so that they can intersect in one point only.

3 How many lines can be drawn joining three points, two by two? Four points? Five points?

4 Hold the ruler on a piece of paper, bring one edge of the triangle against it, and draw a line along a second edge of the triangle. Move the triangle along the ruler one-fourth of an inch and draw a second line along the same edge. Do these two lines extend in the same direction? Will they meet if produced indefinitely? What are parallel lines? Give illustrations of parallel lines.

5. Draw two parallel lines one inch apart and four inches long. Draw three parallel lines one-half inch apart and three inches long.

6 With the ruler and the triangle draw a line through a given point parallel to a given line. Arrange two points so that only one line can be drawn through them parallel to a given line.

7 Draw three lines so that they can intersect in two points only; in no point.

8 Draw two lines forming one angle; two angles; four angles. Draw three lines forming two angles; three angles; five angles. How many angles can be made with three lines; with four lines?

9 Draw one line to meet another, making the two adjacent angles equal (right angles). Draw an angle less than a right angle (acute); greater than a right angle (obtuse). Draw two lines forming one right angle; four right angles.

10 With the ruler and the triangle draw a perpendicular to a line at a given point in the line; from a given point without the line; at the end of the line.

11 From a given point draw four lines forming: (a) two obtuse angles and two acute angles; (b) two obtuse angles, one right angle, and one acute angle; (c) one obtuse angle, two right angles, and one acute angle; (d) three obtuse angles and one acute angle; (e) one obtuse angle, one right angle, and two acute angles; (f) one obtuse angle and three acute angles.

12 Draw five acute angles and five obtuse angles, measure each with the protractor, and write in each the number of degrees it contains.

13 With the ruler draw ten different angles, estimate by eye the number of degrees in each, then measure each with the protractor and note the error.

14 What is the sum of all the angles that may be formed at a point in a line and on the same side of a line? What is the sum of all the angles that may be formed about a point?

15 Draw two lines intersecting at an angle of 60 degrees. Mark in each of the other three its contents in degrees. Draw two lines intersecting at an angle of 80 degrees. Mark in each of the other three angles its contents in degrees. Generalize.

1. Any number of lines can be drawn through a point. Only one line can be drawn through two points. Two points determine a straight line.

2. Two lines can intersect in one point. Three lines can intersect in three points. Four lines can intersect in six points.

(See illustrations.)

(Rule for proof: Multiply the *number* of lines by *one less* than itself and take half the product.)

Three lines intersecting in one point.

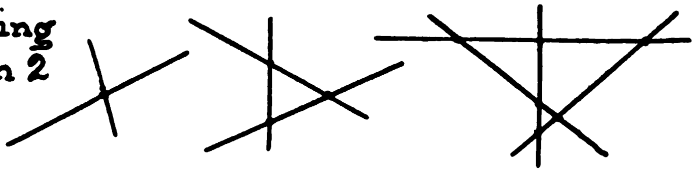
3. Three lines can be drawn joining three points. Six lines can be drawn joining four points. Ten lines can be drawn joining five points.

(See illustrations.)

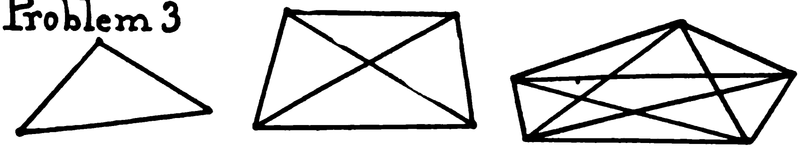
Same rule as before: Multiply number of points by one less than itself (5 points multiplied by $4 = 20$) and take half the product ($\frac{1}{2}$ of $20 = 10$).

4. Parallel lines are lines running in the same direction. They will not meet how far soever they may be produced.

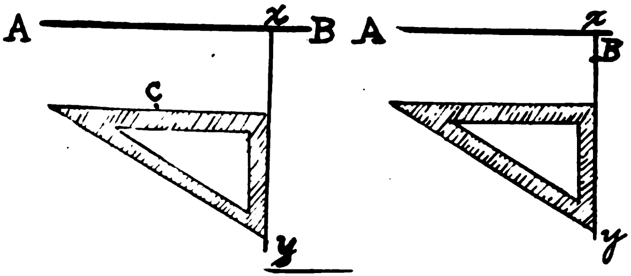
Illustrating
Problem 2



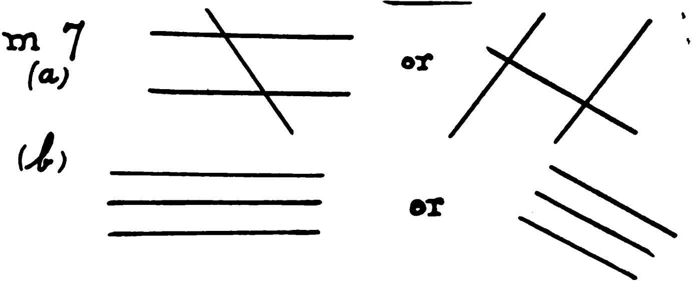
Problem 3



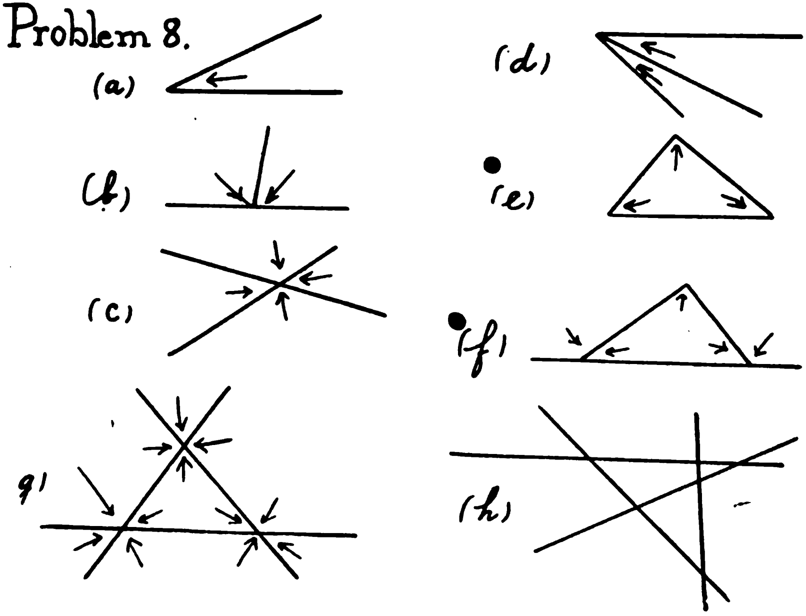
Problem 6.



Problem 7



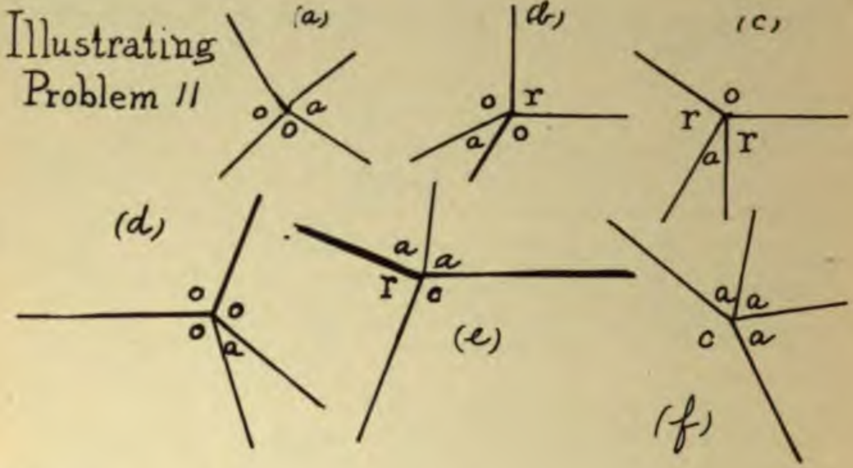
Problem 8.



Illustrations—car tracks, boards in the floor, panels of doors, positions of cornice in ceiling, aisles of the room, etc.

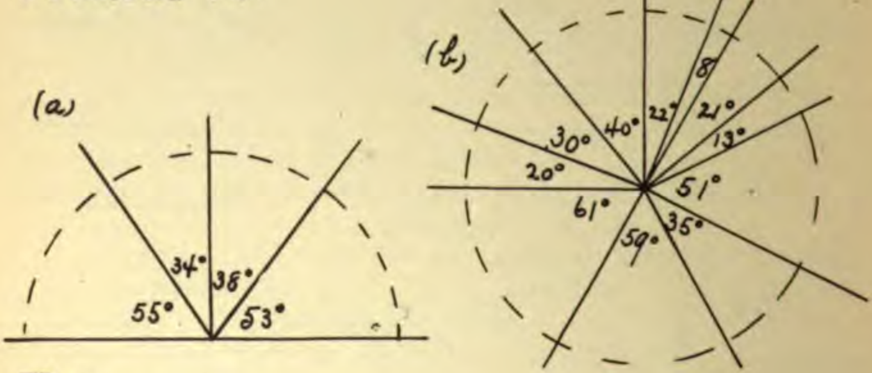
6. (a) What is given? (A line and a point.) Given line A B and dot C. With triangle draw line X Y. Place triangle against X Y and C and draw line through C.

(b) What is given? (A line.) What must be arranged? (Two points). Line A B given. Draw line X Y. Place two dots by side of triangle parallel to A B.

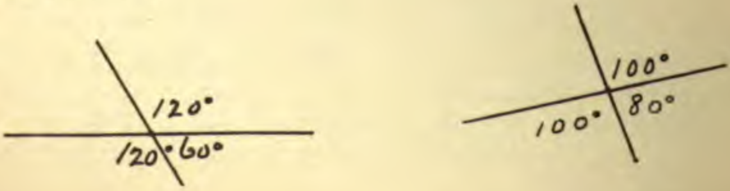


Illustrating Problem 11

Problem 14.



Problem 15



8. An angle is the point made by the meeting of two lines.

Twelve angles can be made with three lines. Twenty-four angles can be made with four lines.

Rule: Multiply the number of lines by one less than itself and double the product.

9. Adjacent angles are angles having a common side or arm.

10. (a) What is given? A line and a point in it.

(b) A point without the line means a point beyond (or outside of) the line.

11. Here there may be any number of arrangements of lines.

12. Lay the center of the protractor (where the little line or notch is) right in the vertex of the angle you wish to measure, let the straight part of the protractor lie along one of the sides of the angle and the distance between the two sides of the angle measured by the curved part of the protractor is the measure of the angle in degree. N. B. Be sure it is clearly understood which two lines form the angle you are measuring and then the curved distance between them is the measure. Remember, too, that acute angles must be less than right angles and obtuse angles greater; right angles measure 90° or a quarter of a circle.

13. Put estimated value in black ink and proper value in red ink.

14. (a) 180° or half a circle. (b) 360° or a whole circle.

Require pupils to draw from a point several lines; measure the angles; and find their sum.

15. Generalization: Opposite angles are equal.

Two angles on the same side of a line which intersects another, equal 180°.

SECOND MONTH (Continued.)

Problems.

1. Principal, x; rate, 4%; time, 4 years, 4 months, 12 days; interest, $524. $3,000.
2. Principal, $1,000; rate, 7½%; time, x; interest, $400. 5 years, 4 months.
3. Principal, $1,200; rate, 4%; time, x; interest, $500. 10 years, 5 months.
4. Principal, $700; rate, x%; time, 1 year, 6 months; interest, $47.25. 4½%.
5. Principal, $3,000; rate, x%; time, 10 years, 11 months, 12 days; interest, $985.50. 3%.

Review Examples in Percentage.

Metric System.

Review first month's work and give the following examples:

1. Reduce 15,675 cm. to kilometers.

The table must be known perfectly, the denominations in regular order, so that one can tell at a glance that there are five steps from centimeters to kilometers. To reduce the higher denominations, *divide* by 10 the requisite number of times. An easy way or short method of dividing by 10 is to move the decimal point one place to the left. Therefore, if, in the given example, we are to divide by 10 five times, move the decimal point five places to the left. Since the number given is a whole number, the decimal point is after it or at the right. Moving it five places to the left, the answer is .15675 km.

2. Express 263.7018 meters as decimeters. This is reducing to lower denominations, one step down, so *multiply* by 10.

A short method of multiplying by 10 is to remove the decimal point one place to the *right*, ∴ the answer is 2637.018 dm.

3. Change 362.8107 m. to Hm. Divide by 10 twice (two steps up). ∴ Move decimal point to left (between 3 and 6). Answer: 3.628107 Hm.

Give continued practice in this table, until its nomenclature is thoroughly known and valued.

Problem—Which is cheaper and how much, to buy cloth at $3 per meter, or at $2.90 per yard. Answer: Former 17c per m.
Solution:

$3 ÷ 39.37079 (the number of inches in 1 m.) equals $.076 per inch; and 36 × $.076 = $2.736

$2.90 — $2.736 = $.164 or 17 cts.

Other original examples may be formed concerning the meter and the yard.

If I may borrow an idea from another teacher, I noticed that considerable interest and emulation were awakened among the pupils by asking them to search in other arithmetics for examples bearing on the case under consideration. In this way a variety of examples under different headings were gathered together and materially lessened the teacher's labor at the same time it stimulated the pupils' interest and effort.

Foreign Money.

English Money (Continued).

1.	Reduce 3s. 6d. to the decimal of a pound.	£.175.
2.	Reduce 5s. 8d. to the decimal of a pound.	£.283⅓.
3.	Express £3 6s. 5d. as pounds and decimal of a pound.	£3.3208+
4.	Express £5 8s. 4d. as pounds and decimal of a pound.	£5.41⅔.
5.	Change £31 6s. 5d. to U. S. money.	$152.42.
6.	Change £51 6s. to U. S. money.	$249.65.
7.	Change £10 6s. 5d. to U. S. Money.	$50.226.
8.	Find the value of the following in English money: $395.18.	£81 4s. 3 far.
9.	Of $246.93.	£50 14s. 9d. 3 far.
10.	Of $1,000.	£205 9s. 8¾d.

Constructive and Inventional Exercises.

16 Draw a line intersecting two parallel lines. Measure the angles formed. Which are equal? Draw two parallel lines cutting two other parallel lines, and point out all the equal angles.
17 With the protractor construct the following angles: 30 degrees, 45 degrees, 60 degrees, 90 degrees, 120 degrees, 165 degrees, 28 degrees, 47 degrees, 138 degrees, 121 degrees.

CIRCLES.

18 Draw two circles with the same radius. Are the two circles equal? Are the radii of the same circle or of equal circles equal? Are all diameters of the same circle or of equal circles equal?
19 Draw two intersecting circles. In how many points can two circles intersect? How many points determine a circle?

CONSTRUCTION WITH COMPASSES.

20 Draw the perpendicular bisector of a given line. Measure the distance of any point in the

perpendicular from each extremity of the given line. Measure the distance of other points in the perpendicular from each extremity of the given line. Generalize.

21 Bisect a given line. Erect a perpendicular at the middle point of a given line.

22 Draw a perpendicular to a line at a given point in the line; from a given point without the line.

Triangles

Triangles classified with respect to (a) their sides, (b) their angles.

23 Draw an isosceles right angle; and isosceles obtuse triagnle; an isosceles acute triangle; a scalene right triangle; a scalene obtuse triangle.

24 Draw different equilateral triangles. Measure their angles. Generalize.

25 Draw different isosceles triangles. Measure the base angles of each. Generalize.

26 Draw different scalene triangles. Measure the angles of each. The largest angle is opposite what side in each?

27 Draw the three altitudes of an acute triangle; of an obtuse triangle; of a right triangle.

28 Draw the three altitudes of an equilateral triangle and measure each. Generalize.

29 Construct a triangle having given (a) the three sides; (b) two sides and the included angle; (c) two angles and the including side.

30 Repeat exercise 29, constructing two triangles in each case, one being on transparent paper. Superpose in each case. Generalize.

16. (a) Given two parallel lines and a line intersecting them. Use the protractor to measure the angles. (Caution pupils to make large drawings, parallel lines long and far apart, so that the protractor may be used with ease.) The intersecting line may be perpendicular to the parallel lines (which makes too easy a problem, however), or more or less oblique.

Opposite angles are equal. See Figure 16—those marked *a* are equal to each other and those marked *b* are equal.

17. In each case, draw a line (vertical, horizontal or oblique) and placing the center of the protractor on the end of the line and letting the straight side of the protractor rest exactly along the line, mark off the number of degrees required and draw the second line of the angle through the mark.

18. Give the definition of *diameter* and *radius.* Make clear the ratio between them. Define *circumference.*

Two circles having the same or equal radii are equal. All diameters or all radii of the same or of equal circles are equal.

19. Two circles can intersect in two points. One point (the center) determines a circle.

20. (Practise using the compasses. Make circles and arcs.)

Given a line. Using one end as center and a little more than half the line as radius, describe a circle or half a circle; and from the other end of the line as center and the same radius, describe a circle, or half circle, cutting the first one: through the point of intersection, draw a line which will be perpendicular to the given line and which will also bisect it.

Be sure that pupils understand the technology of this subject. Define perpendicular lines as those which meet each other, making right (or equal) angles. Define bisector (*bi* = two; *sector,* a cutter).

All points in the perpendicular are equally distant from each extremity of the line.

21. This is No. 20 reviewed.

B D the given line, A C the perpendicular, A E the bisector.

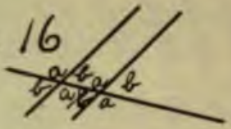
22a. Given a point in a line.

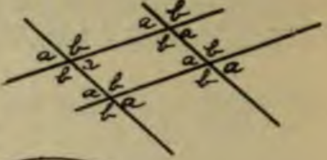
Given point B in the line A C.

Mark off at the right of B a distance equal to A B, then with a radius equal to a little more than A B and from A as center, describe an arc, and from D as center and with the same radius, describe another arc.

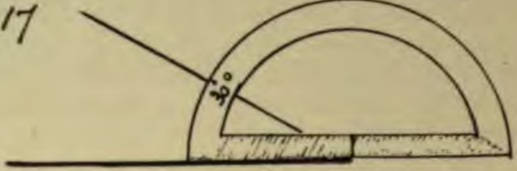
The line that connects E and F is perpendicular to A C at the point B.

Problem 16

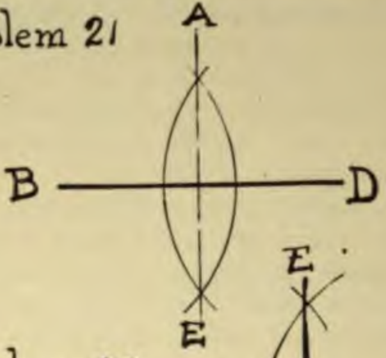


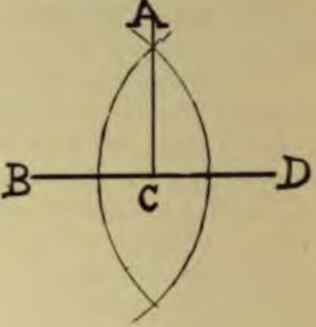


Problem 17



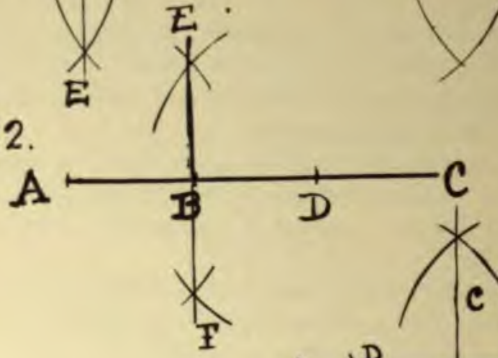
Problem 21

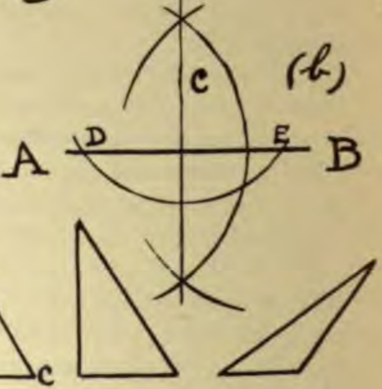




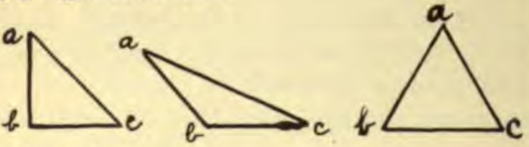
Problem 22.

(a)

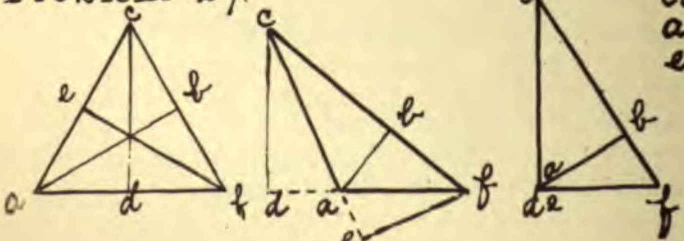




Problem 23.



Problem 27.



cd
ab
ef } altitudes

22b. Given a line A B and the point C without (or outside of it).

With C as center and a distance a little greater than from C to the given line as radius, describe an arc cutting the line A B at D and E, then with the same radius, describe arcs, using first D and then E as centers. The line joining the intersecting points of the arms is the perpendicular required.

23. There are three kinds of triangles with respect to their sides, viz., equilateral (having the three sides equal), isosceles (having two sides equal), and scalene (having no equal sides).

N. B. Be sure the pupils know clearly what a triangle is. A plane figure bounded by three sides or lines. Let them find illustrations (the surface of a triangular prism, the shape of a triangular bed of flowers, of an iron ornament, etc.; in this way illustrating incidentally the difference between plane and solid figures. Have numerous triangles drawn on the blackboard and on paper. Many pupils have a vague idea that a triangle and an angle are the same thing. Let them see that a triangle contains not only three sides but three angles. Definition of triangle: A plane figure formed by three lines intersecting in pairs.

A good way to draw an equilateral triangle is to erect a perpendicular bisector of the base (or line on which the triangle is supposed to stand) carrying it up indefinitely; then erect from each end of the base an oblique line meeting this faintly drawn perpendicular line; let the oblique lines be of the same length as the base.

Triangles are also classified according to their angles into three classes. Right-angled triangle, sometimes called briefly, right triangle (containing one right angle); obtuse or obtuse-angled triangle (containing one obtuse angle); acute or acute-angled triangle (containing all acute angles). Review definitions and illustrations of angles.

What must an isosceles right triangle contain? (Two equal sides and one right angle) a b and b c are equal.

What must an isosceles obtuse triangle contain? (Two equal sides and one obtuse angle) a b and b c are equal.

What must an isosceles acute triangle contain? (Two equal sides and three acute angles) a b and b c are equal.

What must a scalene right triangle contain? (No equal sides and one right angle.)

What must a scalene obtuse triangle contain? (Unequal sides and an obtuse angle.)

24. All the three angles of an equilateral triangle are equal.

25. The angles at the base of an isosceles triangle are equal.

26. The angles of a scalene triangle are unequal; the largest angle is opposite the longest side.

27. *Definition* of *altitude*. It is the *perpendicular* height of a figure. In a triangle the altitudes are the perpendicular distances from the vertices to the opposite sides.

N. B. (a) These altitudes must make right angles with the line to which they are drawn.

(b) One altitude of an obtuse triangle is drawn to the base produced.

(c) Two altitudes of a right triangle are the perpendicular sides.

28. The three altitudes of an equilateral triangle are equal.

29. (a) If the three sides be ¾ inch, 1 inch and 1¼ inch respectively, the result will be right triangle.

(b) Let the two sides be each 1 inch and the included angle 60° equilateral.

(c) Let the two angles be 100° and 45° respectively and the side included between them 1 inch.

30. Generalizations after construction and superposing. (Explain the word superpose—to place upon.)

(a) Two triangles having their three sides equal, each to each, coincide in all their parts.

(b) Two triangles having two sides and the included angle equal each to each, coincide in all their parts.

(c) Two triangles having two angles and the included side equal, each to each, coincide in every respect.

THIRD MONTH.

Simple Interest.

More and continued drill in finding the simple interest for years, months, and days. Plenty of oral work. Give some practice in finding approximate answers.

If the class is bright and capable, the six per cent. method might be taken up. The interest on $1 for 1 year at 6% = $.06; for 1 month or 1-12 of a year, it is 1-12 of $.06 or $.005; and for 1 day or 1-30 of a month, it is 1-30 of $.005 = $.000 1-6 . ·. memorize interest for

1 year = $.06
1 month = .005
1 day = .000 1-6

and thus the interest for any number of years, months, and days may be readily obtained by multiplication and the sum of the products is the required interest on $1. The interest on any number of dollars may then be found.

Accounts: More practice in bills, receipts (full and on account) cash and personal accounts, and if desired, take up accounts current. Have rapid oral reviews in definitions of the various terms used and in methods of procedure. In written work, be even more insistent than before on neatness and accuracy; accept no careless or slovenly work. Practice penmanship in these exercises, cultivating a large hand, with free and rapid movement. It might be a good plan to give a few minutes before each lesson in Accounts, to movement exercises in capital stems, etc.

PROBLEMS.

Percentage.

Using algebraic solution for the following: What number increased by 12% of itself = 560?

Let x = the number,

then
$$x \times \frac{12}{100} + x = 560$$
$$\frac{124}{100} + x = 560 \text{ multiply by } 100$$
$$124 + 100x = 56000$$
$$112x = 56000$$
$$x = 500$$

and this—What number decreased by 10% of itself = 90?

Let x = no,

then
$$x - x \times \frac{10}{100} = 90$$
$$x - \frac{10x}{100} = 90$$
$$100x - 10x = 9000$$
$$90x = 9000$$
$$x = 100$$

Give plenty of problems in Profit and Loss. Have pupils understand that this is only an application of percentage; that the *cost* is the *base,* the gain or loss % is the rate, the selling price is the *amount* when there's a gain but it is the *difference* when there's a loss. N. B. The selling price is never the base and therefore must never be multiplied.

Different cases. a Find Gain.
b Find Loss.
c Find S. P.
d Find Gain %.
e Find Loss %.

(To be continued in next Monograph.)

A Critical Study of Evangeline—7 B

By Milo F. McDonald, P. S. No. 32, Brooklyn.

No critical study, either of poem or poet, should precede the first reading of Evangeline. Furthermore, during the first reading much of the work should be done by the teacher, especially if he or she possesses a lively imagination and a well modulated voice, for our aim throughout this reading should be not only to put the child in possession of the story, but also to have it take possession of his feelings. Evangeline, whatever may be its shortcomings, does take such a strong hold upon our feelings that its story only dies with us. So let us make the child's first impression of the poem a worthy one; let us try to make it rest in his memory not as a poem which he has criticised but rather as one which he has read and appreciated; let us try to have it remain with him forever as "a thing of beauty." To my mind this can be accomplished best by an introductory reading of "the purple patches," and there are many of them, by the teacher.

Before beginning the second reading I have found it advisable to let the children provide for themselves, through a use of their geographies, a setting. Let them see in their imaginations the tame and unattractive landscape of Nova Scotia and let them notice how its scenery, so plain and yet so dear to Evangeline's heart, contrasts with the gorgeous scenery of Louisiana which mocked that heart. Through such a setting they will not only best understand the story by appreciating the perfect peace of the home settlements of Arcadia and the terrible tragedy which took place there, but they will also learn to love the poem and critical study will not be likely to turn an inclination to literature not only into disinclination but into actual distaste.

Likewise, through a use of their histories, they should provide themselves with a knowledge of those facts which serve as a basis of the poem. As most of our school histories contain but very meagre accounts of the expulsion of the Acadians, in order to equip the child with a true historical setting, the outline should be filled in by the teacher.

Another device which I have used with classes reading Evangeline, and which has never failed to create and maintain their enthusiasm for the poem, has been the keeping of scrap books. Whatever may be our general estimate of Longfellow as a poet we cannot but grant that his power to paint a picture with words was wonderful. The child can be gotten to appreciate this and a hunt through his old story books, etc., for pictures corresponding to the written descriptions, or, if this be impossible, an attempt to draw the picture given in words by the poet, is not only productive of much good but gains for the poem the love of the child, which, as teachers of literature, should be our true goal. In his scrap book let him put the picture and longside of it the word picture which it suits. By a correlation with the work in drawing, such scrap books may be gotten up in as elaborate a style as the individual ability of each pupil allows and will be a source of pleasure not only in the doing but also in the remembrance in after years of an early friendship with one of the best poems in our mother-tongue.

Preparatory to the second reading of the poem the children should be made acquainted with the main facts of Longfellow's life. Such facts are given in almost every edition of Evangeline, or may be found in any encyclopedia.

The second reading should proceed slowly and all allusions, figures, etc., necessary to such an understanding of the poem as will impress upon the child the beauty of it, should be explained. The simile and metaphor should be taught during this second reading in connection with their first occurrence in the poem and thereafter the child should be able and expected to recognize them. If he does not get the entire beauty and thought of each, as he most assuredly will not, the teacher should not feel discouraged.

The third reading should be more rapid than the second and should consist chiefly in an effort to bring out the beauty of the "purple patches." Some little discussion of the metre of Evangeline might profitably be introduced during this reading.

I have carefully avoided in the foregoing outline of the method which I think advisable to pursue in the reading of the poem, any mention of grammar. Let the sole reason for the introduction of grammar be to make clear the meaning, as in the location of a subject placed out of its natural order, and do not, under any consideration, subject such a poem filled with the purest sentiment, to the use of grammar. Let grammar be the servant of the poem and let not the poem be the servant of grammar.

The remainder of this article I shall devote to giving, under several headings, such facts and opinions which in my judgment will be helpful to the teacher in directing the child's critical study of Longfellow's masterpiece.

Critical Opinions.

The essence of Longfellow's writings might be defined thus: domestic morals, with a romantic coloring, a warm gleam of sentiment, and a full measure of culture. The morals are partly religious, hardly at all sectarian, pure, sincere and healthy. The romance is sufficiently genuine, yet a trifle factitious, nicely apprehended rather than intense. The sentiment is heartfelt, but a little ordinary—by the very fact of its being ordinary all the more widely and fully responded to—at times with a somewhat false ring, or at least an obvious shallowness; right minded sentiment, which the author perceives to be creditable to himself, and which he aims, as if by an earnest and "penetrated" tone of voice, to make impressive to his reader. The culture is broad and general, not that of a book worm or student, but of a receptive and communicative mind, of average grasp and average sympathies. "Longfellow had much clearness and persuasiveness, some force, and a great aptitude for 'improving the occasion,' but he had not that imaginative strength, that spacious vision, that depth of personal individuality which impress somewhat painfully at first, but which alone supply in the long-run the great, startling and rousing forces that possess a permanent influence."—*London Athenaeum.*

Longfellow has a perfect command of that expression which results from restraining rather than cultivating fluency, and his manner is adapted to his theme. He rarely, if ever, mistakes emotions for conceptions. His words are often pictures of his thought. He selects with great delicacy and precision the exact phrase which best expresses or suggests his idea. He colors his style with the skill of a painter. The warm flush and bright tints, as well as the most evanescent hues of language, he uses with admirable discretion. In that higher department of his art, that of so combining his words and images that they make music to the soul as well as to the ear, and convey not only his feeling and thoughts, but also the very tone and condition of the soul in which they have being, he likewise excels. His imagination, in the sphere of its activity, is almost perfect in its power to shape in visible forms, or to suggest, by cunning verbal combinations, the feeling or thought he desires to express, but it lacks the strength and daring, and the wide sweep, which characterize the imagination of such poets as Shelley. He has little of the unrest and frenzy of the bard. We know, in reading him, that he will never miss his mark, that he will risk nothing; that he will aim to do only that which he feels he can do well. An air of repose, of quiet power, is around his compositions. He rarely loses sight of common interests and sympathies. He displays none of the stinging earnestness, the vehement sensibility, the gusts of passion, which characterize poets of the impulsive class. His spiritualism is not seen in wild struggles after an ineffable Something, for which each can afford but imperfect symbols, and of which even abstract words can suggest little knowledge. He appears perfectly satisfied with his work. Like his own 'Village Blacksmith,' he retires every night with the feeling that something has been attempted, that something has been done."—*E. P. Whipple.*

The Historical Basis of the Poem.

While commissioners in Europe were engaged in an effort to amicably settle a boundary dispute between Nova Scotia and New France in 1755, the French colonists in the British province of Nova Scotia frustrated their efforts by building two forts on a neck of land at the head of the Bay of Fundy. In the forts, after their capture by men from Massachusetts, were found three hundred Acadians. As the Acadians had been freed from military service under France and had agreed to remain neutral, they had now to be considered as rebels against the King of England and to be condemned as such. At a council held in July and attended by the Governor of Nova Scotia, the Chief Justice of the Province, and two British Admirals, it was decided that the Acadians should be punished for their violation of neutrality by removal from their homes and dispersion among the people of the other English provinces.

Now as the population of Acadia was a widely scattered one, some way had to be devised for collecting the people into one place, otherwise such a resolve as the above could never have been put into execution. Accordingly, Governor Lawrence issued a proclamation ordering all males of the colony, "both old and young men, as well as all the lads of ten years of age," to assemble at the church of Grand-Pré on Friday, Sept. 5, 1755, to learn His Majesty's pleasure "on pain of forfeiting goods and chattels in default of real estate." On the Friday appointed there entered the church of Grand-Pré four hundred and eighteen unarmed men. After the doors had been closed and soldiers stationed at them to act as guards, the following mandate was read by General Winslow, to the still unsuspecting farmers: "It is His Majesty's orders, and they are peremptory, that the whole French inhabitants of these districts be removed. Your lands and tenements, cattle of all kinds, and live-stock of all sorts, are forfeited to the Crown, with all your other effects, saving your money and household goods; and you yourselves are to be removed from this province. I shall do everything in my power that your goods be secured to you, and that you are not molested in carrying them off; also, that whole families shall go in the same vessel, and that this removal be made as easy as His Majesty's service will admit. And I hope, that in whatever part of the world you may fall you may be faithful subjects, a peaceful and happy people. Meanwhile you are the king's prisoners, and will remain in security under the inspection and direction of the troops I have the honor to command."

Five days after the reading of the mandate in the church, nineteen hundred and twenty people, the total population of Grand-Pré, were driven at the point of the bayonet out of the village and embarked on Government ships. During the natural confusion attendant upon the removal of these humble folk, many parents were separated from their families and compelled to embark upon different vessels. Moreover, as there were not enough Government ships to take care of all the emigrants, many were forced to remain behind. These were removed in the following December. Little groups of these exiles settled at Clare, at Minudie, in parts of Prince Edward's Island, and on the north coast of New Brunswick, where their descendants persist until the present day.

Memorizing.

The selections made from the poem for the purpose of having the child commit them to memory should be, of course, the best parts, "the purple patches." The following selections are recommended for this work:

Lines 1-19.
Lines 58-81.
Lines 148-170.
Lines 306-325.
Lines 1,381-1,399.

Notes and References.

It is not my purpose to have the child accumulate any fund of information concerning words or allusions. Only those references and allusions should be demanded of him without understanding which it is impossible for him to appreciate the true beauty of the poem. However, as teachers, we should possess a thorough working knowledge concerning all words, references and allusions in the poem. By having such information we can give the child much, even though we demand but a fractional part of what we have given, in return from him; and so, by making him understand, if only for the time, we enable him to remember and love forever. The references, allusions, etc., explained below are by no means a complete list, but only include those which seem to me to have been too poorly treated in some of the editions of Evangeline I have examined.

Line 3.—*Druids of eld.*

In early times the Druids were the priesthood of Gaul and more especially of Britain. Little is known of their belief. They made laws, imposed taxes, executed punishments and in short were the supreme power in the nation. They frequented oak-groves and there made bloody human sacrifices. On Salisbury Plain, in southern England, are massive stones arranged in two circles, one within the other. This place is called Stonehenge, or the Hanging Stones, and it is thought that they may be the remains of a Druid temple.

Line 9.—*Acadian.*

Acadia was the French name for Nova Scotia. It included New Brunswick and parts of Maine.

Line 15.—*Grand-Pré.*

The name signifies large meadow. It is now called Lower Horton.

Line 20.—*Basin of Miras.*

A bay which opens out into the Bay of Fundy.

Line 24.—*Dikes.*

"Hunting and fishing gave way to agriculture, which had been established in the marshes and lowlands, by repelling, with dikes, the sea and rivers which covered these plains. At the same time these immense meadows were covered with numerous flocks."—*Haliburton's History of Nova Scotia.*

Line 29.—*Blomidon.*

Cape Blomidon is on the left of the Basin of Miras, rising about five hundred feet above the sea. In stormy weather a fog generally settles upon it. Sailors now call it Blow-me-down.

Line 39.—*Caps.*

During his first visit to Europe Longfellow was much impressed with the costume of the dames of Normandy. In a letter to his brother from Havre he mentions particularly their long pyramidal caps of muslin, reaching at least two feet above the head, and adorned with ear-tippets.

Line 42.—*Mingled their sound.*

Notice how the sound of the line suggests the noise of the loom.

Line 49.—*Angelus.*

A devotion in the Roman Catholic Church in memory of the annunciation of the Virgin Mary by the angel Gabriel, of the incarnation of the Son of God. It is so called from the opening words: "Angelus Domini nuntiavit Mariae." Longfellow in this line refers to the custom of tolling the bell at the time the Angelus is to be recited.

Line 55.—*Neither locks had they.*

L'Abbé Rayral, in his History of the Indies, says, "Real misery was wholly unknown among the Acadians. Even misfortune was relieved before it could be felt. Theus, in short, was a society of brethren, every individual of which was ready to give and to receive what he thought the common right of manhood."

Line 63.—*Hale.*

With this description compare Shakespeare's Adam; As You Like It, act ii., scene 3, line 52.

Line 72.—*Hyssox.*

In Scripture the hyssox was a plant of which the twigs were used to sprinkle the congregation in the ceremony of purification.

Line 74.—*Chaplet.*

A string of beads, used by Roman Catholics in saying a form of prayer called the Rosary. The word bead in its original meaning signifies prayer.

Line 74.—*Missal.*

A book of prayer used by Roman Catholics.

Line 87.—*Pent-house.*

At many cross-roads in the Catholic cantons of Switzerland and in the Tyrol, statues of the Virgin or of some saint may be seen. These statues are protected from the weather by a rough pent-house consisting of a couple of boards.

Line 93.—*Wains.*

Wagons.

Line 94.—*Seraglio.*

The palace where the wives of Turkish noblemen are shut up.

Line 117.—*Since the birth of time, etc.*

From the time of Tubal Cain on. (Genesis, iv: 23.) The use of armor during the middle ages made the smith an especially important person.

Line 122.—*Plain-song.*

The Gregorian chant of the Catholic Church. It was sung in unison, the tones are of equal length and rarely extend beyond one octave.

Line 133.—*Nuns going into the chapel.*

There is a somewhat similar saying among the Germans: When the sparks in a burning piece of paper go out one after another they say, "the people are going out of church" and the last spark is called the "clerk."

Line 144.—*"Sunshine of St. Eulalie."*

A saint of Barcelona martyred under Diocletian. St. Eulalie's day is the 12th of February. Sunshine at this time of year was supposed to be especially favorable to orchards.

Line 149.—*Scorpion.*

A constellation on the zodiac, in the middle of which is the ecliptic or apparent path of the sun. The sun seems to enter Scorpion about October 23.

Line 217.—*Clock clicked.*

Notice how these words, if said slowly several times suggest the ticking of an old fashioned clock.

Line 234.—*Picked up a horseshoe.*

To pick up a horseshoe was supposed to be a sign of good luck. The Acadians believed that when found it should be brought home and nailed to the sill of the door so that the two extremities were turned toward the outside of the house, otherwise bad luck would come to the finder.

Line 238.—*Gasperau.*

A river flowing into the Basin of Miras above Grand-Pré.

Lines 260-261.—*The merry lads of the village, etc.*

Just as soon as a young Acadian arrived at the proper age for marriage the people of the village in which he lived would build him a house, break up all the land around it and supply him with all the necessaries of life.

Line 263.—*René Leblanc.*

That there actually existed a person by this name may be seen from the following sentence in the petition of the Acadians to the king: "René Leblanc (our public notary) was taken prisoner by the Indians when actually traveling in your Majesty's service, his house pillaged, and himself carried to the French fort, from whence he did not recover his liberty, but with great difficulty, after four years' captivity."

Line 281.—*Goblin.*

Kobald, the goblin referred to in this line, was supposed to be an industrious, kindly spirit. He was especially fond of horses and very unwilling to be thanked for anything he did for them.

Line 282.—*Létiche.*

According to the peasants of France, the soul of a child who has died unchristened appears at night in the form of a small white animal. The name comes from the French word lait, meaning milk.

Line 308.—*Scales.*

Justice is usually represented as holding a pair of scales in one hand and a sword in the other. The presence of the scales indicates that every fact against the accused person will be carefully weighed. The sword in the other hand shows that the punishment, if found guilty, will be keen and swift.

Line 381.—*Hagar.*

Hagar, the Egyptian handmaid, and her son were driven away into the desert by Sarah, Abraham's wife.

Line 442.—*Solstice.*

The point at which the sun is farthest from the equator. The summer solstice begins June 21, the winter, December 21.

Line 456.—*We never have sworn them allegiance.*

The Acadians were not required at first to take the oath of allegiance to the English Crown. Later, when requested to take it, they refused to do so unless a clause should be inserted exempting them from service against their fellow-countrymen. This refusal on their part was one of the reasons for their expulsion.

Lines 559-560.—*For if we love one another, etc.*

These two lines, together with Father Felician's words, line 720, form the keynote of the entire poem.

Line 577.—*Kelp.*

Kelp is the ashes of seaweed. It is used in making glass. The seaweed itself is meant here.

Line 605.—*Benedicite.*

A Latin blessing.

Line 644.—*Oblivious.* (See Milton, Paradise Lost, 1,268).

That brings forgetfulness.

Line 670.—*For asunder, or separate coasts,*

Seven thousand of the inhabitants of Acadia were scattered among the several British colonies. One thousand came to Massachusetts Bay; many were sent to Georgia. Some of these latter attempted to return and got as far as New York or Boston, when they were forced to give up their attempt.

Line 674.—*Savannas.*

Extensive plains of grass.

Line 675.—*Father of Waters.*

The Mississippi.

Line 720.—*Talk not of wasted affection.*

Notice how closely Evangeline's later life is in accordance with the words of the priest.

Line 750.—*Acadian Coast.*

The coast at the mouth of the Mississippi.

Line 757.—*Lagoons.*

Here sheets of water formed by the encroachment of the river on the land.

Line 758.—*Wimpling.*

Looking as if laid in folds. A wimple is a covering, laid in folds, for the neck and face of a woman. It may still be seen in the dress of nuns.

Line 764.—*Golden Coast.*

The coast of southern Louisiana above Baton Rouge.

Line 771.—*Banners that hang on the walls.*

Regimental colors which have been borne through great engagements and are worn out, are generally hung on the walls of some cathedral.

Line 788.—*Through those shadowy aisles.*

The bayou, with the cedars and cypresses meeting overhead is likened by the poet to the aisle of a church at the sides of which are pillars supporting an arched roof.

Line 884.—*Apelansas.*

The old name for a part of Louisiana.

Line 890.—*Yule-tide.*

Because of the custom among the early English people of burning a large yule-log on Christmas day the above name is given to Christmas time. Whenever the mistletoe was found growing on the oak it was cut off by a priest clad in a white robe.

Line 952.—*Adayes.*

A town in the northern part of Texas.

Line 961.—*Olympus.*

A mountain in Thessaly, supposed to be the home of the Homeric gods.

Line 970.—*Ci-devant.*

A French word meaning former.

Line 984.—*Natchitoches.*

A town in Louisiana.

Line 1,009.—*Creoles.*

Native inhabitants of Louisiana who have a French and Spanish ancestry.

Line 1,044.—*"Utharsin."*

One of the words written on the wall while Belshazzar was feasting and which Daniel interpreted as meaning destruction to Belshazzar. The story may be found in the Book of Daniel in the Old Testament.

Line 1,095.—*Ishmael's children.*

The American Indians are supposed by some people to be descended from the lost tribes of Israel.

Line 1,219.—*Compass-flower.*

A stout plant, three to six feet high, bearing a yellow flower. The edges of the leaves are said to turn north and south, while the faces turn east and west.

Line 1,241.—*Moravian missions.*

A congregation of Christians closely resembling the Quakers. They came to the New World after their principal settlement at Fulnex, in Moravia, was destroyed. In America they were known as the United Brethren.

Line 1,257.—*Dryads.*

Wood-nymphs. They were supposed to live in trees and to die when the trees were cut down.

Line 1,355.—*Like the Hebrew.*

During the last plague of the Egyptians the upper part of the door-frame was struck with the blood of a lamb to indicate the home of a believer. (Exodus xii: 7-31).

Lines 1,381-1,399.—*Still stands the forest primeval.*

Compare these lines with the opening of the poem and notice that Longfellow, by writing them in a minor key, makes them serve as a fit conclusion to the sad tale of love he has told.

Synonyms: Their Meanings and Uses—8 A

By Ignus O. Hornstein and Willard Myers.

(Continued from October Monograph.)

8 A

Antagonize—oppose.

To *antagonize* means properly to struggle against, to *oppose* actively, and to counteract.

My object is not to *antagonize* the views of any other writer.—Lyman Abbott.

I am too weak to *oppose* your cunning.

Amount—quantity—number.

Amount means "sum total," and is used of numbers or quantities; *quantity* is used of things which are measured; *number* of things which are counted.

It is not the opinion of the absolute majority which rules, but that *amount* of public opinion which can be brought to bear on a particular point. —Wendell Phillips.

The fall of water in a cataract must develop a large *quantity* of heat. The precise *amount* might be calculated.—Jacob Abbott.

The *number* of votes received by the candidate was very large.

Address—direct.

Address is never used but in direct application to persons. Direct may be applied to places as well as to persons.

It was soon noised abroad that Patrick Henry was to *address* the people at March Court. Great was the anxiety to hear the first orator of the age for the last time.—H. A. Garland.

And with him, *directing* his household,
Gentle Evangeline lived.—Longfellow.

Apt—liable.

Apt implies a natural predisposition, an habitual tendency. Liable implies an unpleasant probability.

For manhood's sake we would not say of any man that he is *liable* to be married; yet, under certain circumstances, most men are apt to be married.— R. G. White.

If an offender returned to his own country before the expiration of his term of exile, he was liable to capital punishment.—Macaulay.

Answer—reply.

In a wide sense anything said or done in return for some word, action, or suggestion of another may be called an *answer.* A reply is an unfolding and ordinarily implies thought or intelligence.

The sublime mystery of Providence goes on in silence and gives no explanation of itself,—no *answer* to our impatient questionings.—Longfellow.

Mr. Parker's *reply* to Mr. Roosevelt's accusations, during the last campaign, was a masterful display of oratory and reasoning.

Bound—determined.

Bound properly means obliged, fated, or under necessity. In the sense of determined, bound is not in good use.

We are *bound* to maintain the principles of public liberty.—Webster.

As none but stamped paper was legal, and as the people had *determined* not to use it, all business was suspended.—Lossing.

Beautiful—fine—handsome—pretty.

Of these epithets, which denote what is pleasing to the eye, *beautiful* conveys the strongest meaning; *fineness, handsomeness* and *prettiness* are to *beauty* as parts to a whole.

Beautiful, fine and *pretty* are applied indifferently to works of nature and of art; *handsomely* mostly to art only.

The *beautiful* can never die. If the gods have deserted their oracles, they have not deserted the souls that aspire to them.—Kingsley.

He gratified them with occasional *fine* writing.—M. Arnold.

They are as heaven made them, *handsome* enough, if they be good enough; for *handsome* is that *handsome* does.—Oliver Goldsmith.

Her *pretty* hands in the *pretty* pockets of her *pretty* apron.—Disraeli.

Bravery and courage.

Bravery lies in the blood; *courage* lies in the mind; the latter depends on the reason, the former on the physical temperament; the first is a species of instinct; the second is a virtue; a man is *brave* in proportion as he is without thought; he has *courage* in proportion as he reasons and reflects. *Bravery* is a thing of the moment, varying with the time and season; *courage* exists at all times and on all occasions.

The policeman's *bravery* in rescuing the drowning child was rewarded by his superiors.

It requires a vast amount of *courage* to risk one's life in the exercise of his duty.

Character—reputation.

Character is what a man is; *reputation* is the prevailing opinion of his character.

Character is like an inward and spiritual grace, of which reputation is, or should be, the outward and visible sign.—R. G. White.

I see my *reputation* is at stake.—Shakespeare.

Custom—habit.

Custom denotes the frequent repetition of the same act, and may be used of a number of persons taken together. *Habit* is the effect of *custom* in a person. *Custom* is voluntary; *habit* is involuntary, often uncontrollable, sometimes unconscious.

With William the Conqueror Norman *customs* were introduced into England.

De Quincey acquired the *habit* of using opium from first using it to relieve neuralgic pains.

Convenient—suitable.

Convenient regards the circumstances of the individual; *suitable* respects the established opinion of mankind, and is closely connected with moral propriety.

To serve as a *convenient* measure of value is one of the functions of the commodity selected as a medium of exchange.—Mill.

How could money be better spent than in erecting a *suitable* building for the greatest library in the world?—R. T. Ely.

Confide—trust.

We always *trust* when we *confide;* but do not confide when we trust. *Confidence* involves communication of a man's mind to another, but *trust* is confined to matters of action.

Judge before friendship, then *confide* till death.—Young.

He that trusts everyone without reserve will at last be *deceived.*—Johnson.

Conqueror—victor.

A *conqueror* is always supposed to add something to his possessions; a *victor* gains nothing but the superiority.

A mutual affection entered into both their hearts, as a *conqueror* enters into a surprised city.—Izaak Walton.

The battle was over, and he was the *victor,* standing alone upon the field; and at his feet the slain.—R. Buchanan.

Confusion—disorder.

Confusion supposes the absence of all order; *disorder* the derangement of order where it exists, or is supposed to exist; there is always *disorder* in confusion; but not always *confusion* in *disorder.*

At the outbreak of the war the State departments were in *confusion.*

Massacres and *disorders* never pave the way to peace.—Bulwer Lytton.

Concealment—secrecy.

Concealment is itself an action; *secrecy* is the quality of an action: *concealment* may respect the state of things; *secrecy* the conduct of persons; but *secrecy* supposes some person to whom the thing *concealed* is known. What is *concealed* is kept from the observation of others; what is *secret* is known only to ourselves; there may frequently be *concealment* without *secrecy,* although there cannot be *secrecy* without *concealment.*

A work of darkness is one that seeks *concealment,* and *conceals* facts; or even casts disdain and disgrace on facts.—Ruskin.

It is not with public as with private prayer: in this rather *secrecy* is demanded than public show.—Hooker.

Cede—surrender.

Both words means to give up. *Cede,* however, is a purely political transaction, while *surrender* is an act of *surrender* or necessity. Generals surrender towns which they cannot hold; governments *cede* countries which they do not desire to retain.

Spain *ceded* Florida to the United States in 1819 for $5,000,000.

After a long siege Vicksburg was *surrendered,* and the Union troops marched into the city.

Commotion—disturbance.

When applied to physical objects, *commotion* denotes the violent motion of several objects, or of the several parts of any individual thing. *Disturbance* denotes any motion or noise which puts a thing out of its natural state.

In respect to men or animals, *commotion* and *disturbance* may be either inward or outward, with a like distinction in their signification. A *commotion* supposes a motion of all the feelings; a *disturbance* of the mind may amount to no more than an interruption of the quiet to an indefinite degree.

How seldom do we find a man who has stirred up some vast *commotion,* who does not himself perish, swept away in it.—Carlyle.

The *disturbance* was made to support a general accusation against the province.—Bancroft.

Disclose—discover.

To disclose is to uncover, to reveal; to *discover* is in modern usage to find.

The lazy mists rolled heavily up the valley, *disclosing* as they went patches of fertile richness.—Lever.

He suddenly *discovered* that he had lost his watch.

Deny—refuse.

To *deny* respects matters of fact or knowledge; to *refuse* matters of wish or request. We *deny* what immediately relates to ourselves; we *refuse* what relates to another. We *deny* as to the past. We refuse as to the future. A denial affects our veracity; a refusal affects our good-nature.

Deny sometimes denotes simply to withhold; in this case it approaches nearer the meaning of *refuse;* but refuse which signifies to cast off from one is more positive and stronger.

No one can deny that it is of advantage to a poet to deal with a beautiful world.—Matthew Arnold.

His request for an audience could not be refused.

Disturb—interrupt.

We may be disturbed either inwardly or outwardly; interrupted only by an outward act. A disturbance depends upon the character of the person; what disturbs one man may not disturb another; an interruption is, however, something positive; what interrupts one person will interrupt another.

Do not interrupt our conversation.

It is dangerous to disturb a hornet's nest.—Dryden.

Destruction—ruin.

Destruction is an act of immediate violence; *ruin* is a gradual process. A thing is *destroyed* by some external action upon it; *ruin* is almost always of a permanent character. *Destruction* admits of various degrees; *ruin* is something positive and general.

During the recent railroad strikes the *destruction* of property was a daily occurrence.

Nature takes an English ruin to her heart, covering it with ivy as tenderly as Robin Redbreast covered the dead babes with forest leaves.—Hawthorne.

Duty—obligation.

Duty consists altogether of what is right or due from one being to another; *obligation* signifies the bond or necessity which lies in the thing. All duty depends upon moral obligation which exists between man and man, or man and his matter; in this abstract sense, therefore, there can be no duty without a previous obligation, and where there is an obligation it involves a duty; but in the vulgar acceptation *duty* is applicable to the conduct of men in their various relations; *obligation* only to particular circumstances or modes of action. The *duty* is not so peremptory as the obligation; the *obligation* is not as lasting as the *duty*. Our affections impel us to the discharge of *duty;* interest or necessity impels us to the discharge of an *obligation.*

In seeing a thing to be right we see at the same time that it is our *duty* to do it.

Every man has *obligations* which belong to his station. *Duties* extend beyond *obligations,* and direct the affections, desires and intentions as well as the actions.—Whewell.

Happy—fortunate.

Happy conveys the idea of that which is abstractedly good; *fortunate* implies rather what is agreeable to one's wishes; *happy* excludes the idea of chance; *fortunate* excludes the idea of personal effort.

Where a permanent reform appears to have been instantaneously effected, it will be found that the *happy* result was but the sudden plucking of the fruit which had slowly ripened.—Bancroft.

The *fortunate* man is he who, born poor, or nobody, works gradually up to wealth and consideration.—Charles Reade.

Hasten—hurry.

To *hasten* is to proceed with some design and in good order; to *hurry* always supposes perturbation and irregularity. To *hasten* is opposed to delay on a dilatory mode of proceeding; to *hurry* is opposed to deliberate and cautious proceeding.

Conscious of the importance of the crisis, they *hastened* the arrival of fresh reinforcements.—S. G. A. Benjamin.

Great masses of clouds were *hurried* across the blue sky.—George Eliot.

Healthy—healthful—wholesome.

That is *healthy* which is good in health, that is *healthful* or *wholesome* which produces health. *Wholesome* commonly applies to food.

If a *healthy* body contributes to the health of the mind, so also a *healthy* mind keeps the body well.

Gardening is a *healthful* recreation for a man of study or business.

Wholesome food in a *healthful* climate makes a *healthy* man.

Human—humane.

Human denotes what pertains to man, as "human nature." ***Humane*** means compassionate.

To err is ***human;*** to forgive divine.—Pope.

The Society for the Prevention of Cruelty to Animals is a ***humane*** organization.

Hung—Hanged.

Clothes are *hung* on the line; men are ***hanged*** on the gallows.

The rope *hung* over the precipice.

The sentence of the court was executed when the murderer was ***hanged.***

Increase—grow.

To *increase* is either a gradual or an instantaneous act; to *grow* is a gradual process.

To *increase* is either a natural or an artificial process; to *grow* is always natural.

The quantity of money in circulation *increases* as the demand for supplies *increases.*—H. Fawcett.

The love of gold *grows* faster than the heaps of acquisition.

Idle—lazy.

A propensity to inaction is the common idea by which these words are connected. They differ in the cause and degree of the quality. One is termed *idle* who will do nothing useful; one is *lazy* who will do nothing at all without great reluctance.

Rip was content to remain *idle* and only wished to be left alone.

Many a beggar is as *lazy* as if he had ten thousand a year, and many a man of large fortune is busier than his errand boy.—Ruskin.

Let—lease.

To *let* means to give the use of. To *lease* means to give the use of by contract and for a stipulated sum.

They *let* their homes and with her children she went to her mother, beyond the sea.—A. H. Clough.

There were some houses that were *leased* out for long periods of time.

Laugh at—ridicule.

Both these verbs are used here in the improper sense for laughter, blended with more or less of contempt; but the former displays itself by the natural expression of laughter; the latter shows itself by a verbal expression; the former is produced by a feeling of mirth, on observing the real or supposed weakness of another; the latter is produced by a sense of the absurd or irrational in another; the former is more immediately directed to the person who has excited the feeling; the latter is more commonly produced by things than by persons. We *laugh at* the individual; we ***ridicule*** that which is maintained by him.

Ichabod crossing the hill on a windy day, with coat-tails flying . . . was a figure long to be remembered and *laughed at.*—Washington Irving.

My father discouraged me by *ridiculing* my performances and telling me verse makers were generally beggars.—B. Franklin.

Mournful—sad.

The *mournful* awakens tender and sympathetic feeling; the *sad* oppresses the spirit and makes one heavy at heart.

It is a *mournful* thing to have no home.
To wear a shroud of loneliness on earth.—Sarah M. B. Platt.

A *sad* fate overtook the beautiful city.

Noble—grand.

Noble implies the quality by which a thing is distinguished for excellence above other things; the *grand* is, properly speaking, one of those qualities by which an object acquires the name of *noble;* but there are many *noble* objects which are not called *grand. Nobility* comprises many qualities, one of which is *grand.*

In the series of "The World's Great Explorers," Captain Markham has published the life of one of the noblest of a long list of *noble* names.—H. Elliott.

That was the *grandest* funeral
That ever passed on earth.—C. F. Alexander.

Pretension—claim.

Pretension refers only to the rights which are considered as such by the individual; *claim,* to those which exist independent of his supposition. There cannot, therefore, be a *pretension* without some one to pretend, but there may be a *claim* without any immediate *claimant.* The *pretension* is commonly made upon personal merits; the *claim* upon the laws of civil society. The *pretension* when denied can never be proved; the *claim* when proved can be enforced.

The independent English nobility . . . conspired to make an insurrection and to support the prince's *pretension.*—Hume.

In August I made *"a claim."* This is the frontier term for one hundred and sixty acres which the settler improves and claims for his future home.—Richardson.

Series—succession.

A *series* is a succession of similar things mutually related according to some law. *Succession* is properly used of several things following one after the other; it denotes order of occurrence only, and does not imply any connection.

Egyptian buildings were . . . such a *series* as no other country in the world can match either for historic interest or architectural magnificence.—James Ferguson.

A *succession* of good crops means prosperity to the farmer.

Safe—secure.

Safe implies exemption from harm, or the damage of harm; *secure,* the exemption from danger. In the sense of exemption from dangers *safety* expresses much less than *security;* we may be *safe* without using any particular measures; but none can reckon on any degree of *security* without great precaution.

But let your Prince (our royal word upon it,
He came back *safe*) ride with us to our lines.—Tennyson.

All rushed to the fort, and how *secure* the fort was I need scarcely say.

8 B

Affect—effect.

To *affect* is to act upon, to influence; *effect* is to bring about.

The climate *affected* their health and spirits.—Macaulay.

They sailed away without *effecting* their purpose.—Jewett.

Ability—capacity.

Ability is the power of doing; *capacity,* the power of containing, of understanding, of acquiring.

Sir Isaac Newton said he had one talent, the *ability* to look steadily at a problem until he saw it through.—E. S. Phelps.

The *capacity* of the cylinder was taxed to the utmost.—Boyle.

Aggravate—irritate.

In good use *aggravate* means to make heavier, more grave, worse in some way. It is often misused for *irritate, exasperate,* or *provoke.*

The defense made by the prisoner's counsel did rather *aggravate* than extenuate his crime.—Addison.

The insolence of a tyrant *irritates* his subjects.

Benevolence—beneficence.

Benevolence is literally well willing. *Beneficence* is literally well doing. The former consists of intention, the latter of action: the former is the cause, the latter the result. The first can exist without the second, but the second always presupposes the first.

I was extremely pleased, as we rode along, to observe the general *benevolence* of all the neighborhood toward my friend.—Addison.

The *beneficences* of Andrew Carnegie are numerous.

Balance—rest—remainder.

Balance, meaning the difference between two sides of an account, is a commercial term, and cannot properly be used for *rest* or *remainder. Rest* is used of persons or things and of large as well as of small parts. *Remainder* is used only of things, and denotes a comparatively small part.

A happy fierceness of manner will often help a man as much as a large *balance* at the banker's.—Thackeray.

Armed like the *rest,* the Trojan prince appeared.—Dryden.

The water, having been evaporated, the *remainder* was found to be salt.

Council—counsel.

A *council* is a body of persons convened for consultation. *Counsel* denotes advice, or a person, as a lawyer, employed to give advice.

Never . . . had a whole nation been so freely called into *council,* as in England, after the complete emancipation of the press.—May.

No man will take *counsel,* but every man will take money; therefore, money is better than *counsel.*—Swift.

Change—alter.

To *change* is distinctively to make a thing other than it has been, in some respects at least. To alter, is to *change* partially, to make different in one or more particulars.

You can burn the egg-shell and see for yourself that it becomes *changed* into lime.—Holmes.

I kneel an *altered* and an humble man
Beneath thy shadows.—Poe.

Connection—relation.

A *connection* denotes that which binds two objects, or the situation of being so bound by some tie; but *relation* denotes the situation of two or more objects in regard to each other, yet without defining what it is; a *connec n* is therefore a species of *relation,* but a *relation* does not always amount to a *connection.* The word *relation* is sometimes taken in a limited sense for one *connected* by family ties, which denotes some thing nearer in that core than *connection.*

The Bible brings into closest *connection* the Visible and Invisible.—W. Frazer.

There is a certain, definite *relation* between cause and effect.

Confess—admit.

Admit in cases into which the idea of confession does not enter, is preferable to *confess.* On grounds of idiom, however, "I must *confess*" and the parenthetical "I *confess*" are exempt from the operation of this rule.

And when I my sins *confess,*
Sweet Spirit comfort me!—Herrick.

But so it frequently happens that what is laughed at in the beginning, is by all *admitted* and allowed at the last.—French.

Centre—middle.

The *centre* is a point or a definite place; the *middle* is a line or a space, and is less definite than *centre.*

Athens was the intellectual *centre* of Greece and of ancient Europe.—May.

There stood unarmed Kalmucks in a death grapple with their detested foes, both up to the *middle* in water.—De Juincey.

Contagion—infection.

Contagion proceeds from a simple touch; *infection* from receiving inwardly, or having it impressed. We consider *contagion* as to the manner of spreading from one body to another; we consider *infection* as to the act of its working itself into the system. Whatever acts by *contagion* acts immediately by direct personal contact; whatever acts gradually and indirectly, or through the medium of a third body, as clothes is an *infection*. *Contagion*, therefore, is properly applied only to particular diseases, but *infection* may be applied to every disease which is communicable. Whatever, therefore, is *contagious* is also *infectious*, but not vice versa.

A cold and searching wind drives away all *contagion*.—Thoreau.

The mob thinks by *infection* for the most part, catching our opinion like a cold.—Ruskin.

Close—shut.

To *close* signifies simply to put close together. *Shut*, to stop or prevent admittance; closing is therefore a partial *shutting*, and *shutting* a complete *closing*.

Again, to *close* properly means the bringing of anything *close*, and may, therefore, be applied to any opening or cavity which may be filled up or covered over for a permanency; but *shutting* implies merely an occasional stoppage of any entrance by that which is movable, as a door, book, or box.

He *closed* his lips and refused to say anything further.

The doors were *shut* against the crowds clamoring for admission.

Defective—deficient.

Defective expresses the quality or property of having a *defect*. *Deficient* is employed with regard to the thing itself that is wanting. A book may be *defective*, in consequence of some leaves being *deficient*. Many things, however, may be *defective* without being *deficient* and vice versa. That which is *defective* is most likely to be permanent, but a *deficiency* may be only occasional and easily reclaimed.

Defective lighting apparatus threw the house into darkness.

This answer of hers is proof that she was *deficient* in delicacy and in tenderness.—Landon.

Estimate—esteem.

To *estimate* is to judge the value of; to *esteem* is to set a high value on, especially of persons.

It is by the weight of silver, and not the name of the piece, that men stimate commodities and exchange them.

You talk kindlier; we *esteem* you for it.—Tennyson.

Eminent—prominent.

Eminent means distinguished in character or rank; *prominent* means conspicuous, standing out so as to be easily seen.

Among the *eminent* men of his day, Washington was the leader.

The large, *prominent* eyes of the giraffe, and the limbs formed for flight, betoken the timidity of the creature.—Charles Bell.

(To be continued in next Monograph.)

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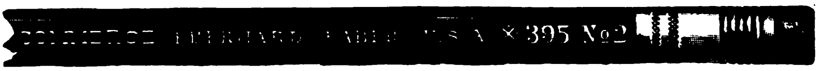

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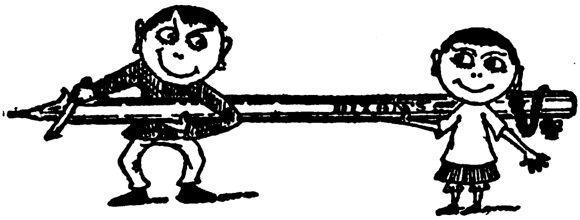

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made nose
made nose
mouth hole
mouth hole
eyes big
eyes big

Will had a big yellow pumpkin. He made a Jack o' lantern of it.

He made a big hole in it and took the seeds out of it. Then he made holes for eyes, nose, and mouth.

"There, Jack!" said little Will. "How do you like that?"

"I like it," said the pumpkin.

"Oh, you do, do you!" said Will, walking away. He was a little afraid of that Jack o' lantern.

"Yes," said Jack, "I like boys. I like my garden friends, too."

"Your garden friends!" said Will.

(Sample page from the First Reader)

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